

SOLICITATION, OFFER AND AWARD			1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING		PAGE 1 OF 96 PAGES			
2. CONTRACT NO.		3. SOLICITATION NO. DTRS57-03-R-20008		4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED BID (RFP)		5. DATE ISSUED 05/13/2003		6. REQUISITION/PURCHASE NUMBER 76-3331		
7. ISSUED BY U.S. DOT/RSPA/Volpe Center 55 Broadway Cambridge MA 02142				8. ADDRESS OFFER TO (If other than Item 7)						
NOTE : In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"										
SOLICITATION										
9. Sealed offers in original and * _____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in See Block #7 _____ until 2:00 EDT _____ local time 06/17/2003 *See Section L, Paragraph L.5.F (Hour) (Date)										
CAUTION : LATE Submissions, Modifications and Withdrawals : See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.										
10. FOR INFORMATION CALL:		A. NAME Teresa Lee-Fierstein		B. TELEPHONE (NO COLLECT CALLS) AREA CODE 617 NUMBER 494-3830 EXT.			C. E-MAIL ADDRESS leefierste@volpe.dot.gov			
11. TABLE OF CONTENTS										
(X)	SEC.	DESCRIPTION		PAGE(S)	(X)	SEC.	DESCRIPTION		PAGE(S)	
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<input checked="" type="checkbox"/>	A	SOLICITATION/CONTRACT FORM			<input checked="" type="checkbox"/>	I	CONTRACT CLAUSES			
<input checked="" type="checkbox"/>	B	SUPPLIES OR SERVICES AND PRICES/COST			PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.					
<input checked="" type="checkbox"/>	C	DESCRIPTION/SPECS./WORK STATEMENT			<input checked="" type="checkbox"/>	J	LIST OF ATTACHMENTS			
<input checked="" type="checkbox"/>	D	PACKAGING AND MARKING			PART IV - REPRESENTATIONS AND INSTRUCTIONS					
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<input checked="" type="checkbox"/>	G	CONTRACT ADMINISTRATION DATA			<input checked="" type="checkbox"/>	M	EVALUATION FACTORS FOR AWARD			
<input checked="" type="checkbox"/>	H	SPECIAL CONTRACT REQUIREMENTS								
OFFER (Must be fully completed by offeror)										
NOTE : Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.										
12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.										
13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52-232-8)		10 CALENDAR DAYS %		20 CALENDAR DAYS %		30 CALENDAR DAYS %		CALENDAR DAYS %		
14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):		AMENDMENT NO.		DATE		AMENDMENT NO.		DATE		
15A. NAME AND ADDRESS OF OFFEROR		CODE		FACILITY		16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)				
15B. TELEPHONE NUMBER		<input type="checkbox"/> 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.		17. SIGNATURE		18. OFFER DATE				
AREA CODE NUMBER EXT.										
AWARD (To be completed by government)										
19. ACCEPTED AS TO ITEMS NUMBERED		20. AMOUNT		21. ACCOUNTING AND APPROPRIATION						
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION : <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()				23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)			ITEM			
24. ADMINISTERED BY (If other than item 7)				CODE		25. PAYMENT WILL BE MADE BY			CODE	
26. NAME OF CONTRACTING OFFICER (Type or print)				27. UNITED STATES OF AMERICA (Signature of Contracting Officer)			28. AWARD DATE			
IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.										
AUTHORIZED FOR LOCAL REPRODUCTION Previous edition is unusable						STANDARD FORM 33 (REV. 9-97) Prescribed by GSA- FAR (48 CFR) 53.214(c)				

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SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS**B.1 CONTRACT TYPE - COST-PLUS-FIXED-FEE. OCT 2001**

A. This is an indefinite delivery/indefinite quantity (IDIQ) task order contract. Requirements will be placed under this contract through the issuance of task orders.

B. Individual cost-plus-fixed-fee task orders will be issued on a completion type basis pursuant to FAR 16.306 (d) (1) whenever possible. If a completion type task order is not appropriate, a term type task order may be issued, pursuant to FAR 16.306(d) (2).

ITEM	DESCRIPTION	QTY	UNIT	AMOUNT
0001	SERVICES per the Statement of Work provided in Section C, for the Level of Effort in Clause B.2, for the performance period stated in Section F, Paragraph F.2.	1	LO	
	Estimated Cost:			\$ *
	Fixed Fee:			\$ *
	Total CPFF:			\$ *

* Offeror shall insert amounts.

B.2 LEVEL OF EFFORT - IDIQ.

(a) The level of effort estimated to be ordered during the term of this contract is 37,000 hours of direct labor including authorized subcontract labor, if any. The level of effort is expected to occur evenly over the contract term. The Contractor shall not, under any circumstances, exceed 100% of the total level of effort specified in this basic contract. The estimated composition of the total hours of direct labor by classification is as follows:

Labor Category	Hours
Program Manager *	1,000
Senior Engineers, Applied Mechanics *	2,300
Senior Engineers, Biomechanics *	2,000
Senior Operations Research Analysts *	1,300
Middle Engineers, Applied Mechanics *	6,000
Middle Engineers, Biomechanics *	5,000
Middle Operations Research Analysts *	3,600
Staff Engineers, Applied Mechanics *	2,600
Staff Engineers, Biomechanics *	2,300
Staff Operations Research Analysts *	1,600
Junior Staff	4,000
Senior Technicians *	3,300
Technicians	2,000
Total	37,000

* denotes Key Personnel labor categories

(b) Either clause FAR 52.232-20, "Limitation of Cost" or FAR 52.232-22, "Limitation of Funds", depending upon whether the order is fully funded, applies independently to each order under this contract and nothing in this clause amends the rights or responsibilities of the parties hereto under either of those two clauses. In addition,

the notifications required by this clause are separate and distinct from any specified in either the "Limitation of Cost" or "Limitation of Funds" clause.

(c) In the event that less than 100% of the established level of effort of the basic contract is actually expended by the completion date of the contract, the Government shall have the option of:

(1) Requiring the Contractor to continue performance, subject to the provisions of the "Limitation of Cost" or the "Limitation of Funds" clause, as applicable, until the effort expended equals 100% of the established Level of Effort, provided that any such continuation is completed within six (6) months after the end of the term of the contract; or

(2) Effecting a reduction in the fixed fee by the percentage by which the total expended man-hours is less than 100% of the established Level of Effort (or the fee bearing portion of the last upward revision).

(d) Completion Form Task Orders.

(1) An estimated level of effort shall be established for each completion form task order. This estimated level of effort is established for the purpose of determining the amount of fixed fee payable on the task order and tracking the ceiling amount of the contract, it is not to be construed as a performance requirement.

(2) Within thirty days after completion of the work under each completion form task order, the Contractor shall submit the following information directly, in writing, to the ordering officer, with copies to the COTR and the office to which vouchers are submitted:

(i) The Contractor's estimate of the total allowable cost incurred under the task order; and

(ii) In the case of a cost underrun, the amount by which the estimated cost of the task order may be reduced to recover excess funds.

(e) Term Form Task Orders.

(1) The Contractor shall notify the Procuring Contracting Officer immediately in writing whenever it has reason to believe that:

(i) The level of effort the Contractor expects to incur under any term form order in the next 60 days, when added to the level of effort previously expended in the performance of that order, will exceed 75% of the level of effort established for that order; or

(ii) The level of effort required to perform a particular term form order will be greater than the level of effort established for that order.

As part of the notification, the Contractor shall provide the Contracting Officer a revised estimate of the level of effort required to perform the order. As part of the notification, the Contractor also shall submit any proposal for adjustment to the estimated cost and fixed fee that it deems would be equitable if the Government were to increase the level of effort as proposed by the Contractor. Any such upward adjustment shall be prospective only, i.e., will apply only to effort expended after a modification (if any) is issued. However, whether an increase in fixed fee is appropriate shall depend on the circumstances involved, and, except as otherwise

provided in the contract, shall be entirely within the discretion of the Contracting Officer.

(2) In performing term form task orders, the Contractor may use any combination of hours of the labor categories listed in the task order.

(3) Within thirty days after completion of the work under each term form task order, the Contractor shall submit the following information directly, in writing, to the ordering officer, with copies to the COTR:

(i) The total number of man-hours of direct labor, including subcontract labor, expended and a breakdown of this total showing the number of man-hours expended in each direct labor classification listed in the task order schedule, including the identification of the key employees utilized;

(ii) The Contractor's estimate of the total allowable cost incurred under the task order; and

(iii) In the case of a cost underrun, the amount by which the estimated cost of the task order may be reduced to recover excess funds.

(4) In the event that less than 100% of the established level of effort of a term order (or if said level of effort has been previously revised upward, of the fee bearing portion of the additional hours by which the level of effort was last increased) is actually expended by the completion date of the contract, the Government shall have the option of:

(i) Requiring the Contractor to continue performance, subject to the provisions of the "Limitation of Cost" or the "Limitation of Funds" clause, as applicable, until the effort expended equals 100% of the established Level of Effort (or of the fee-bearing portion of the last upward revision); or

(ii) Effecting a reduction in the fixed fee by the percentage by which the total expended man-hours is less than 100% of the established Level of Effort (or the fee bearing portion of the last upward revision).

(5) In the event that the expended level of effort of a term order exceeds the established level of effort by 10% or less, but does not exceed the estimated cost of the order; the Contractor shall be entitled to cost reimbursement for actual hours expended, not to exceed the ceiling cost. The Contractor shall not be paid fixed fee, however, on level of effort in excess of 100% without complying with subsection (e)(1) above. This understanding does not supersede or change subsection (e)(1) above, whereby the Contractor and Government may agree on a change to the task order level of effort with an equitable adjustment for both cost and fee.

B.3 PAYMENT OF FIXED FEE - IDIQ.

A. The fixed fee specified in Section B of this contract represents the maximum fee that shall be paid under this contract. This fee shall be paid, subject to any adjustment required by other provisions of this contract, in installments at the time of each provisional payment for reimbursement of allowable cost. This clause addresses payment of fixed fee for both term and completion form Task Orders.

B. A fixed fee shall be established for each Task Order issued under this contract. The fixed fee established shall be in direct ratio to the total contract fixed fee as the level of effort (direct labor hours) established in the task order is to the total contract level of effort (direct labor hours). The amount of each installment payment of

fixed fee shall be in direct ratio of the total contract fixed fee as the net direct labor hours expended during the period is to the total contract level of effort (direct labor hours).

C. Completion Task Orders. The Contractor is entitled to the full amount of fixed fee upon the acceptable completion of the Task Order.

D. Term Task Orders. No fee shall be paid under term form Task Orders for hours not performed.

E. Withholding. As provided in the clause entitled, Fixed Fee (FAR 52.216-8), the Contracting Officer hereby withholds 15% of all fixed fee payable under the contract up to the stated maximum of \$100,000. Invoices submitted under the contract shall indicate fixed fee withheld.

F. The terms of this clause and of FAR 52.216-8 apply to the total fixed fee specified in Section B of the contract rather than to the individual Task Orders placed hereunder.

B.4 CONTRACT LIMITATIONS. OCT 2001

A. Multiple Contract Awards: **(TO BE COMPLETED AT TIME OF AWARD)** contracts have been awarded under Volpe Center Solicitation DTRS57-03-R-20008.

B. Maximum Contract Value: The value of all task orders placed under all contracts awarded shall not exceed \$5 million. The maximum value on any single contract is not fixed. As more orders are issued under one contract, the value of orders, which can be issued under the remaining contracts, drops by an equal amount.

C. Minimum Guarantee: The guaranteed minimum is \$25,000.00 for each contract.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

Statement of Work: Rail Crashworthiness Research Support Services

C.1 BACKGROUND.

In support of the U.S. Department of Transportation (DOT) Federal Railroad Administration's (FRA) Office of Research and Development, the U.S. DOT Research and Special Programs Administration / Volpe National Transportation Systems Center, hereafter referred to as the Volpe Center, has been conducting research into rail equipment crashworthiness. The information from this research has been used by the FRA and Amtrak to develop the crashworthiness requirements for the high-speed trainset and by the FRA to develop initial regulations for passenger equipment. The information is currently being used by the American Public Transit Association (APTA) to develop industry standards and recommended practices for passenger equipment crashworthiness. The FRA is currently planning to expand and further update its passenger equipment regulations. Revisions and additions to current locomotive crashworthiness requirements are currently being considered by the Railway Safety Advisory Committee (RSAC).

C.2 OBJECTIVE.

The overall objective of this contract is to conduct studies to develop and evaluate the effectiveness and feasibility of concepts for improved rail equipment crashworthiness. Examples of concepts for improved crashworthiness include the incorporation of crush-zones at the end of cars to better preserve the occupied areas of the train, and lap and shoulder belts for occupant restraint. Information to be developed under this contract is expected to help form the technical basis for the rail equipment crashworthiness specifications and regulations.

C.3 SCOPE.

The scope includes collision risk analyses, and analysis, design, and test of rail equipment structural crashworthiness and occupant protection. Risk analyses includes the determination of the collision scenarios of concern and their probability of occurrence. Such analyses may include determination of the costs and benefits associated with crashworthiness concepts. Structural crashworthiness includes evaluations of structures with large deformations and material failure; structural crashworthiness also includes evaluations of train collision dynamics (i.e., the trajectories of the train cars during the collision). Interior crashworthiness includes evaluation of the forces and accelerations acting on occupants during collision, as well as evaluation of occupant trajectories. These evaluations include analyses and tests. Analyses may range from simplified models through detailed computer simulations. Tests may include quasi-static and dynamic testing of equipment structural components, quasi-static testing of interior components, dynamic sled testing of interior mock-ups, and engineering support to full-scale testing.

The scope of structural and interior crashworthiness efforts also includes design development of concepts for improved crashworthiness. Ranges of equipment to be considered include freight locomotives, passenger locomotives, intercity passenger carrying equipment such as single and bi-level coach cars and food service cars, commuter equipment such as coach cars and diesel- and electric-multiple unit cars (DMU'S and EMU'S).

C.4 TECHNICAL AREAS.

Task orders within the scope of this contract may be issued in any one or combination of the three following technical areas: (1) Risk Analysis, (2) Structural Crashworthiness, and (3) Occupant Protection.

C.4.1 RISK ANALYSIS.

Potential tasks in risk analysis include determination of the collision scenarios of concern for particular train operating environments, including the determination of the influence of system parameters such as signal system design and equipment crashworthiness on the overall collision safety. Determination of potential costs and benefits may be required as part of such tasks. In order to more fully assess potential consequences of collisions, risk-related tasks may require the gathering of data from the field, including assessment of equipment that has been damaged in accidents, the reviewing of hospital records of train accident victims, and the interviewing of train accident victims.

C.4.2 STRUCTURAL CRASHWORTHINESS.

This task area encompasses analysis, design and test of structural crashworthiness involving primary collision mechanics. Structural crashworthiness tasks include evaluations of rail car deformations during collision and determination of the trajectories of the cars that make up the trains involved in a collision. Tasks may require determination of component and substructure crush behavior analytically and experimentally; whole car deformation behavior may be determined analytically. Principal results of such task include force/crush characteristics for components, substructures, and whole cars, as well as the associated modes of deformation for such articles. Loading conditions on such articles may cause deformations in excess of three feet, and may cause fracture of components. Tasks may require determination of car damage in a train collision, as well as the conditions for which car to car override and lateral buckling of the trains may be expected to occur. Principal results include the trajectories of each of the cars involved in the collision, the damage to each of the cars resulting from the collision, the deceleration time-histories of each of the occupant volumes, and the direction and magnitude of the forces acting on each of the cars during collision. Principal results of such a task may also include the track conditions, train make-ups, and initial conditions (e.g., closing speed) under which override and train buckling may occur. There may also be tasks to support whole-car and train testing; such support may include development of test requirements, test implementation plans, and pre- and post-test analyses.

C.4.3 OCCUPANT PROTECTION.

This task area entails analysis, design and test of occupant protection, involving secondary collision mechanics. Occupant protection tasks include evaluations of human-body/interior interaction during train accidents. Tasks may require evaluation of alternative secondary crashworthiness strategies for crew and passenger protection during train accidents. Potential alternative strategies include lap and shoulder belts, airbags, inflatable structures, padding and compartmentalization. Such strategies may be evaluated for use in the operator's cab of locomotives and cab cars, as well as in lavatory areas and food-service cars of passenger equipment. Tasks may require simulation studies in order to determine the influence of parameters such as occupant

size on the likelihood of injury. Tasks may also require quasi-static testing of interior components, potentially to develop data for simulation models, and dynamic testing of interior mock-ups, to measure interior crashworthiness performance of interior configurations. Tasks may also require support to whole-car and train testing to develop secondary collision test requirements, implementation plans, and pre- and post-test analyses.

C.5 PERSONNEL QUALIFICATIONS.

The Contractor shall provide personnel having the minimum levels of professional/technical experience and education specified for each of the following labor categories. In addition, Key Personnel are subject to the terms of the Transportation Acquisition Regulation 1252.215-70 clause entitled KEY PERSONNEL AND/OR FACILITIES, located in Section I.

C.5.1 Program Manager.

A Ph.D., Sc.D. degree in mechanical or civil engineering, operations research, or in an engineering or science course of study, or equivalent*. The Program Manager is required to have a minimum of 10 years of progressively increasing responsibility, resulting in leadership of projects. At least 5 years (of the 10 years) directing and coordinating multiple programs/projects with junior staff and/or outside (subcontractor) support. At least 5 years (of the 10 years) experience in presenting technical information to audiences of diverse backgrounds, e.g., audiences comprised of other engineers, lawyers, management, and trade union representatives.

C.5.2 Senior Engineers, Applied Mechanics.

A Ph.D., Sc.D. degree in mechanical or civil engineering, with concentration in applied mechanics, or equivalent*. A minimum of 10 years of progressively increasing responsibility in projects and studies in applied mechanics is required. Related research includes research in automotive and aircraft collision safety as well as rail equipment collision safety. At least 5 years (of the 10 years) must reflect extensive and in-depth experience in a specific field directly related to structural crashworthiness of transportation equipment.

C.5.3 Senior Engineers, Biomechanics.

A Ph.D., Sc.D. degree in mechanical, civil, or biomechanical engineering, with concentration on the mechanical behavior of the human body, or equivalent*. A minimum of 10 years of progressively increasing responsibility in projects and studies related to human injury. Related research includes research in human injury in automotive and aircraft collisions as well as rail equipment collisions. At least 5 years (of the 10 years) must reflect extensive and in-depth experience in human injury in transportation equipment collisions.

C.5.4 Senior Operations Research Analysts.

A Ph.D. degree in operations research or in a course of study concentrating in operations research, mathematics, logic, or subject matter courses for which college level mathematics or statistics was a prerequisite, or equivalent*. A minimum of 10 years of progressively increasing responsibility in projects and studies related to the operation

of transportation systems. Related research includes operations research in highway and aviation systems as well as rail transportation systems. At least 5 years (of the 10 years) must reflect extensive and in-depth experience in operations research of transportation systems.

C.5.5 Middle Engineers, Applied Mechanics.

A M.S. degree in mechanical or civil engineering, with concentration in applied mechanics, or equivalent**. A minimum of 8 years of progressively increasing responsibility in projects and studies in applied mechanics is required. At least 3 years (of the 8 years) must reflect extensive and in-depth experience in structural crashworthiness of transportation equipment.

C.5.6 Middle Engineers, Biomechanics.

A M.S. degree in mechanical or civil engineering, with concentration in the mechanical behavior of the human body, or equivalent**. A minimum of 8 years of progressively increasing responsibility in projects and studies related to human injury is required. At least 3 years (of the 8 years) must reflect extensive and in-depth experience in human injury in transportation equipment collisions.

C.5.7 Middle Operations Research Analysts.

A M.S. degree in operations research, or in a course of study concentrating in operations research, mathematics, logic, or subject matter courses for which college level mathematics or statistics was a prerequisite, or equivalent**. A minimum of 8 years of progressively increasing responsibility in projects and studies related to the operation of transportation systems. At least 3 years (of the 8 years) must reflect extensive and in-depth experience operations research of transportation systems.

C.5.8 Staff Engineers, Applied Mechanics.

A B.S. degree in mechanical or civil engineering, with concentration in applied mechanics, or equivalent***. A minimum of 5 years of progressively increasing responsibility in projects and studies in applied mechanics is required.

C.5.9 Staff Engineers, Biomechanics.

A B.S. degree in mechanical or civil engineering, with concentration in the mechanical behavior of the human body, or equivalent***. A minimum of 5 years of progressively increasing responsibility in projects and studies related to human injury is required.

C.5.10 Staff Operations Research Analysts.

A B.S. degree in operations research, or in a course of study concentrating in operations research, mathematics, logic, or subject matter courses for which college level mathematics or statistics was a prerequisite, or equivalent***. A minimum of 5 years of progressively increasing responsibility in projects and studies related to the operation of transportation systems.

C.5.11 Junior Staff.

A B.S. or equivalent degree*** in a field of study directly related to the SOW functional areas, or an Associate's Degree in a field of study directly related to the SOW functional areas plus a minimum of 2 years of progressively increasing responsibility in directly related disciplines and/or projects is required.

C.5.12 Senior Technicians.

A minimum of 9 years of progressively increasing responsibility in conducting tests of mechanical systems, including installation and setup up of instrumentation such as strain gages and accelerometers and setup of acquisition systems for collecting data from such instrumentation. At least 3 years experience (of the 9 years) in fabrication of mechanical test articles, including machining and welding. At least 3 years (of the 9 years) experience directing technicians and junior technicians in the testing and/or fabrication of mechanical systems. Education resulting in a degree or certificate will be considered equal to years of experience on a one-for-one basis.

C.5.13 Technicians.

A minimum of 2 years of progressively increasing responsibility in conducting tests of mechanical systems, including installation and setup up of instrumentation such as strain gages and accelerometers and setup of acquisition systems for collecting data from instrumentation or in fabrication of mechanical test articles, including machining and welding. Education resulting in a degree or certificate will be considered equal to years of experience on a one-for-one basis.

C.6 EQUIVALENCY.

* A Master's degree plus 4 additional years of intensive directly related experience may be substituted for a Ph.D. Engineers must have an Accreditation Board for Engineering and Technology (ABET) accredited degree or have professional engineer certification.

** A Bachelor's degree plus 2 additional years of intensive directly related experience and 2 years of additional general experience may be substituted for a Master's degree. Engineers must have an ABET accredited degree or have professional engineer certification.

*** Any combination of years of experience in the proposed field of expertise and/or full-time college-level study in the particular field totaling 4 years will be an acceptable substitute for a Bachelor's degree. Engineers must have an ABET accredited degree or have professional engineer certification.

		Minimum Required Years of Experience		Equivalency		
Labor Category	Degree in Directly-Related Field	General	Specific		Plus Additional Years of Experience	Plus Certification (applies to engineers only)
Program Manager, Senior Engineers, Senior Operations Research Analysts	Ph.D., Sc.D.	10	5	Masters	4 Directly Related	ABET or professional engineer certification
Middle Engineers, Middle Operations Research Analysts	M.S.	8	3	Bachelors	2 General and 2 Directly Related	ABET or professional engineer certification
Staff Engineers, Staff Operations Research Analysts	B.S.	5	5	Combination 4 years of field-related college-level full-time study and/or experience	N/A	ABET or professional engineer certification
Junior Staff	B.S.	0	0	Combination 4 years of field-related college-level full-time study and/or experience	N/A	N/A
Junior Staff	Assoc.	2	2	N/A	N/A	N/A
Senior Technicians	None	9	3	Each full-time year spent pursuing degree or certificate equivalent to one year of experience	N/A	N/A
Technicians	None	2	2	Each full-time year spent pursuing degree or certificate equivalent to one year of experience	N/A	N/A

SECTION D - PACKAGING AND MARKING**D.1 PRESERVATION AND PACKAGING.**

Preservation, packing, and packaging of articles called for herein shall be in accordance with good commercial practices to assure delivery at destination.

D.2 MARKING. MAY 1999

All items submitted to the Government shall be clearly marked as follows:

- A. NAME OF CONTRACTOR;
- B. CONTRACT NUMBER;
- C. TASK ORDER NUMBER; (If Applicable)
- D. DESCRIPTION OF ITEMS CONTAINED THEREIN;
- E. CONSIGNEE'S NAME AND ADDRESS; and
- F. If applicable, packages containing software or other magnetic media shall be marked on external containers with a notice reading substantially as follows: "CAUTION: SOFTWARE/MAGNETIC MEDIA ENCLOSED. DO NOT EXPOSE TO HEAT OR MAGNETIC FIELDS".

SECTION E - INSPECTION AND ACCEPTANCE**E.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE. FEB 1998**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/> - Federal Acquisition Regulation

<http://www.dot.gov/ost/m60/tamtar/tar.htm> - Transportation Acquisition Regulation

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

52.246-5 INSPECTION OF SERVICES - COST-REIMBURSEMENT. APR 1984

52.246-15 CERTIFICATE OF CONFORMANCE. APR 1984

SECTION F - DELIVERIES OR PERFORMANCE**F.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE. FEB 1998**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/> - Federal Acquisition Regulation
<http://www.dot.gov/ost/m60/tamtar/tar.htm> - Transportation Acquisition Regulation

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

52.242-15 Stop-Work Order. AUG 1989 Alternate I APR 1984
 52.247-34 F.o.b. Destination. NOV 1991
 52.247-55 F.o.b. Point for Delivery of Government-Furnished Property. APR 1984

F.2 PERFORMANCE PERIOD. MAY 1999

A. This contract shall become effective on October 1, 2003, or on the date of the contract award, whichever is later. The ordering period is five (5) years from the effective date of the contract. Also see the clause in Section I entitled, Ordering (FAR 52.216-18).

B. The performance period shall continue until the date specified in the clause in Section I entitled Indefinite Quantity (FAR 52.216-22).

C. Individual task orders will specify a beginning date (OF 347, Block 1) and an ending date (Section F therein). Costs incurred prior to the beginning date or after the ending date shall not be directly allowable without the written consent of the Contracting Officer (modification).

F.3 CONTRACT PROGRESS REPORT. MAY 1999

A. A Contractor, which has been awarded one or more task orders, shall provide monthly overall progress reports. The progress reports shall be provided to the Contracting Officer or his designee not later than the 15th of each month. The reports shall be submitted in a designated format. The Government may require submission of reports electronically in a format to be specified.

B. The monthly progress reports shall address all activity under the contract through the last day of the previous month.

C. The monthly progress report shall contain the following information:

1. A listing of all new task orders accepted for the preceding month, including, for each:
 - a. Task order number and date of issuance;
 - b. Brief description of work covered by task order, including estimated hardware/software amounts (if applicable);
 - c. Amount obligated under task order;
 - d. Total potential task order amount (including options);
 - e. Key milestones (including date of first and last deliverable);
 - f. Subcontractor information, if applicable (including name(s), classification of

- subcontractor (i.e., small, disadvantaged, large, etc.), type of effort being performed, estimated amount/percentage of work to be done by subcontractor(s));
- g. Type of task order (i.e., CPFF - Term, or CPFF - Completion); and
- h. Key personnel assigned to task order, including prime Contractor contact point and phone number for task order.

2. A listing of all ongoing task orders (excluding those from paragraph 1. above) including:

- a. Task order number and date of issuance;
- b. Any modifications to the task order;
- c. Summary of dollars expended to date per task order;
- d. Estimated percentage of work yet to be completed on the task order;
- e. Progress in meeting subcontracting goals and performance measures under the task order (if applicable); and
- f. Any updates/revisions to the information provided under paragraph C.1. of this clause.

3. A listing of all completed task orders, including:

- a. Task order number and date of issuance;
- b. Number and value of modifications issued for the task order;
- c. Completion date of task order and whether or not inspection and acceptance has been performed by Government;
- d. Total dollar amount of task order, including modifications;
- e. Success/failure in meeting subcontracting goals and performance measures under the task order (if applicable);
- f. Any updates/revisions to the information provided under paragraph C.1. or C.2. of this clause; and
- g. Status of performance evaluation comments.

4. Significant findings, problems, delays, events, trends, etc. during the reporting period which result from or affect the performance of any task order and any perceived problems which affect the base contract.

D. The data required in paragraphs A. through C. above, along with other relevant information required, shall be subject to inclusion in a past performance database developed and maintained by the Government.

F.4 MONTHLY TASK ORDER PROGRESS REPORTS. MAY 1999

A monthly progress report shall be submitted for all ongoing task orders. The Volpe Center may require that the report be submitted in a designated format. At a minimum, the report will cover the following items:

A. The work performed during the previous month.

B. Significant findings, problems, delays, events, trends, etc. during the reporting period which result from or affect the performance of the task order.

C. Detailed technical description of the work planned for the next reporting period.

D. Specific action requested of the Government to assist in the resolution of a problem or to effect the timely progression of the task order.

E. An up-to-date schedule of the work performed and work to be performed under the task order. A chart shall be presented reflecting planned project accomplishments versus actual accomplishments in terms of time.

F.5 MONTHLY TASK ORDER COST REPORTS. MAY 1999

Monthly cost reports will be submitted by the Contractor, setting forth monthly and cumulative (1) direct labor hours by categories as set forth in the task including subcontract hours, and (2) elements of cost by direct loaded labor dollars, subcontracts, and other direct costs, etc., which have been incurred and/or committed. Proprietary rate information should not be disclosed. The costs that have been committed but are unpaid to date will be noted. Where cumulative amounts on the monthly reports differ from the aggregate amounts contained in the request(s) for contract financing payments covering the same period, the Contractor must provide a reconciliation of the difference as part of the monthly report. In these reports, the Contractor shall also make its current assessment of completing the remaining work within the remaining funds. A graph shall be prepared by the Contractor using the vertical axis for dollars and the horizontal axis for time that shows actual and projected rates of expenditures for the Task Order. THE SUBMISSION OF THESE REPORTS DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY UNDER THE LIMITATION OF COSTS OR FUNDS CLAUSES, APPLICABLE TO EACH TASK ORDER AND IDENTIFIED IN SECTION I OF THIS CONTRACT. The Volpe Center may require that the report be submitted in a designated format.

F.6 REPORTS OF WORK - REPORT DISTRIBUTION. JAN 2003**A. Contract Progress Report:**

1 copy Contracting Officer or Administrative Contracting Officer (ACO)
 1 copy Contracting Officer's Technical Representative (COTR)

B. Monthly task order Progress Reports:

1 copy CO/ACO
 1 copy COTR
 1 copy Task Order COTR (TOCOTR) (as applicable)

C. Monthly task order Cost Reports:

1 copy CO/ACO
 1 copy COTR
 1 copy TOCOTR (as applicable)

D. Technical Reports

The number of copies and recipients will be determined in each task order. The Contractor shall provide a copy of the cover letter transmitting final submission of technical deliverables to the designated ACO.

SECTION G - CONTRACT ADMINISTRATION DATA**G.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE. FEB 1998**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/> - Federal Acquisition Regulation
<http://www.dot.gov/ost/m60/tamtar/tar.htm> - Transportation Acquisition Regulation

I. TRANSPORTATION ACQUISITION REGULATION (48 CFR CHAPTER 12) CLAUSES

1252.242-73 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE. OCT 1994

G.2 RESPONSIBILITY FOR CONTRACT ADMINISTRATION. DEC 1998

Contracting Officer: The Contracting Officer (CO) has the overall responsibility for this contract. The CO alone, without delegation, is authorized to take actions on behalf of the Government to amend, modify, or deviate from the contract terms, conditions, requirements, specifications, details and/or delivery schedules. However, the CO may delegate certain other responsibilities to his/her authorized representatives.

Administrative Contracting Officer: An Administrative Contracting Officer (ACO) may be designated by the Contracting Officer. The duties of an ACO include but are not limited to: analyzing and making recommendations on the Contractor's proposals, offers, or quotations upon request of the Contracting Officer and approving Contractor's invoices in accordance with the terms of the contract.

Contracting Officer's Technical Representative: A Contracting Officer's Technical Representative (COTR) will be designated by the Contracting Officer. The responsibilities of the COTR include but are not limited to: inspecting and monitoring the Contractor's work; determining the adequacy of performance by the Contractor in accordance with the terms and conditions of this contract; acting as the Government's representative in charge of work at the site to ensure compliance with contract requirements in so far as the work is concerned; and advising the Contracting Officer of any factors which may cause delay in performance of the work. The COTR does not have the authority to make new assignments of work or to issue directions that cause an increase or decrease in the price of this contract or otherwise affect any other contract terms.

Task Order Contracting Officer's Technical Representative:

The Contracting Officer may designate a Task Order Contracting Officer's Technical Representative (TOCOTR). The TOCOTR will perform the duties of the COTR in connection with the technical oversight of an individual task order.

The Contracting Officer, Administrative Contracting Officer, and Technical Representatives are located at:

DOT/RSPA/VOLPE CENTER
 55 BROADWAY
 CAMBRIDGE, MA 02142-1093

G.3 ORDERING. FEB 2003

A. The Government will order any supplies and services to be furnished under this contract by issuing by mail, facsimile, or electronically task orders on Optional Form 347 or an agency prescribed form. In addition to the Contracting Officer, the following individuals are authorized ordering officers:

Designated Administrative Contracting Officers

B. A Standard Form 30 will be used to modify task orders.

C. An authorized representative of the Contractor shall acknowledge receipt of each task order within three (3) calendar days.

D. Each task order issued may incorporate the Contractor's technical and/or cost proposals and will include an estimated cost and fixed fee set forth as a ceiling price. If the task order is incrementally funded, the amount available for payment and allotted to the task will also be specified. The Limitation of Funds and/or the Limitation of Cost clauses will control notification requirements when the Contractor has reason to believe it will experience an overrun of the estimated cost or allocated funds specified in a cost reimbursable type task order.

E. Under no circumstances will the Contractor start work prior to the issue date of the task order unless specifically authorized to do so by the ordering officer. Any work commenced prior to the date of authorization or task issuance will be considered unauthorized and will not be subsequently ratified.

G.4 TASK ORDER OMBUDSMAN. SEP 1999

Contractors wishing to issue complaints regarding the solicitation or award of individual task orders shall submit such complaints to the Task Order Ombudsman, Research and Special Programs Administration, 400 7th Street SW, Washington, DC 20590, Attn: DMA-1. It should be noted that in accordance with FAR 16.505(a)(7), no protest is authorized in connection with the issuance of a task order except for a protest on the grounds that the task order increases the scope, period of performance, or maximum value of the contract.

G.5 ACCOUNTING AND APPROPRIATION DATA. MAY 1999

Each individual task order shall specify the Accounting and Appropriation Data from which payment shall be made.

G.6 INCREMENTAL FUNDING OF TASK ORDERS. DEC 1998

Pursuant to FAR 52.232-22, Limitation of Funds (APR 1984), incorporated by reference herein, task orders issued under this contract may be incrementally funded.

A. When a term form task order is incrementally funded, the following clause will be set forth in full in the task order:

LIMITATION OF LIABILITY - INCREMENTAL FUNDING (TERM FORM)

(1) The amount available for payment for this incrementally funded task order is hereby increased from \$_____ by \$_____ to \$_____. The amount allotted to the estimated cost is increased from \$_____ by \$_____ to \$_____. The amount obligated for the fixed fee/award fee is increased from \$_____ to \$_____. This modification involves no change in the total level-of-effort, estimated costs or fixed fee/award fee of this contract, unless otherwise specified herein. The Limitation of Funds clause, FAR 52.232-22, applies to the amount allotted to cover the estimated costs only.

(2) The estimated level of effort applicable to the incremental funding provided herein is _____ professional labor-hours.

(3) The incremental funding provided herein is estimated to be adequate for services performed through _____.

B. When a completion-type task order is incrementally funded, the following clause will be set forth in full in the task order.

LIMITATION OF LIABILITY - INCREMENTAL FUNDING (COMPLETION FORM)

(1) The amount available for payment for this incrementally funded task order is hereby increased from \$_____ by \$_____ to \$_____. The amount allotted to the estimated cost is increased from \$_____ by \$_____ to \$_____. The amount obligated for the fixed fee/award fee is increased from \$_____ to \$_____. This modification involves no change in the total level-of-effort, estimated costs or fixed fee/award fee of this contract, unless otherwise specified herein. The Limitation of Funds clause, FAR 52.232-22, applies to the amount allotted to cover the estimated costs only.

(2) The incremental funding provided herein is applicable to the tasks and deliverables specified in _____.

G.7 PAYMENTS UNDER COST REIMBURSEMENT CONTRACTS. MAY 1999

A. One original and five copies of an invoice or contract financing requests or invoices shall be submitted covering the amount claimed to be due and services rendered and cost incurred thereunder. Under indefinite delivery/indefinite quantity contracts, separate invoices or contract financing requests must be submitted for each task. However, all interim payment requests for tasks under the contract must be submitted concurrently each month and only one contract level completion invoice shall be submitted. The completion (final) invoice is the last voucher to be submitted for incurred, allocable, and allowable costs expended to perform all task orders issued under the contract. This contract-level voucher should include all reserves, allowable cost withholdings, balance of fixed fee, etc. The final contract level invoice shall include current and cumulative charges for amounts claimed under each task by major cost element and the fixed fee

relative to each task. NOTE: Under no circumstances can funds obligated under one task be used to pay costs incurred or fee earned under another task.

B. In addition to the information required by FAR 52.216-7 and FAR 52.232-25 incorporated by reference in Section I, an invoice or contract financing payment request must meet the following requirements:

- (1) Consecutively number each interim payment request beginning with No. 1 for each task.
- (2) The voucher shall include current and cumulative charges by major cost element such as direct labor, overhead, and other direct costs. Cite direct labor hours incurred by the prime contractor and each subcontractor. Other direct costs must be identified, e.g., travel, per diem, material, and equipment.
- (3) Requests for contract financing or invoices must clearly indicate the period of performance for which payment is requested and Volpe Center accounting information necessary to process payments. When contracts or task orders contain multiple lines of accounting data, charges that cannot be assigned to a single line of accounting information should be allocated based on the percentage of total dollars unless otherwise specified.
- (4) When the Contractor submits vouchers on a monthly basis, the period covered by invoices or requests for contract financing payments must be the same as the period for monthly progress reports reported under the contract or tasks. If, in accordance with FAR 52.216-7, the Contractor submits requests for invoices or contract financing payments more frequently than monthly, one payment request per month must have the same ending period as the monthly progress report.
- (5) Pending settlement of the final indirect rates for any period, the Contractor shall be reimbursed at billing rates approved by the Cognizant Federal Agency (CFA). The Contractor shall ensure that any change in the identity of the CFA responsible for establishment of its indirect rate factors is made known to the Volpe Center ACO. These rates are subject to appropriate adjustments when revised by mutual agreement or when the final indirect rates are settled either by mutual agreement or unilateral determination by the CFA (see FAR 42.704). In accordance with FAR 52.216-7, the Contractor shall submit to the CFA a proposal for final indirect rates based on the Contractor's actual costs for the period, together with all supporting data. In addition, Contractors are required by the CFA to submit billing rate proposals, usually no later than 30 days after the close of its fiscal year, for the ensuing fiscal year to the CFA. Copies of the cover letter submitting the proposal must be provided to the Volpe Center ACO. The Contractor's failure to provide the rate proposal in a timely manner may impact payment of financing request and could ultimately result in suspension of the indirect expense portion. The Contractor shall provide copies of all rates established by the CFA to the Volpe Center ACO. It is imperative that the ACO be provided signed copies of all rate agreements since these rate agreements must be in the possession of the Volpe Center before any rates contained therein can be utilized by the Contractor for cost reimbursement.

G.8 VOUCHER REVIEW. MAY 1999

The Government may at its sole discretion arrange for a Contractor to review vouchers and supporting data submitted for payment under the provisions of this contract. The Contractor reviewing vouchers and supporting data will perform this function in accordance with contract provisions which prohibit disclosure of proprietary financial data or use of such data for any purpose other than to perform accounts payable services.

SECTION H - SPECIAL CONTRACT REQUIREMENTS**H.1 SALES TAX EXEMPTION. SEP 1999**

A. The Volpe National Transportation Systems Center, as part of the Department of Transportation, an agency of the United States, is an exempt purchaser. Accordingly, all purchases of personal property by this organization are exempt from state and local taxation.

B. The Contractor may be provided with Tax Exemption certificates for the purpose of obtaining an exemption under this procurement for materials and equipment purchased under this procurement. Notwithstanding the terms of the Federal, State, and Local Taxes clause, the Contractor shall state separately on its vouchers the amount of state sales tax, and the Government agrees to either to pay the amount of the tax to the Contractor or, where the amount of the tax exceeds \$250.00 to provide evidence necessary to sustain the exemption.

H.2 INCIDENTAL HARDWARE/SOFTWARE. DEC 1998

The acquisition of incidental hardware, software, or supplies may be appropriate on individual task orders in cases where the hardware/software is incidental to the performance of services to be provided under the task order, and the Government may require the Contractor to purchase hardware, software, and related supplies to support specific projects. Such requirements will be identified at the time a task order is issued or may be identified during the course of performance of a task order by the Government or Contractor. If the Contractor identifies a requirement for miscellaneous supplies within the scope of a task order, the Contractor shall submit to the Government a request for approval to purchase such materials. The request shall include a description of the specific items, direct cost, indirect cost and rationale.

H.3 HANDLING OF DATA. MAY 1999

A. The Contractor and any of its subcontractors in performance of this contract may have need for access to and use of various types of data and information in the possession of the Government which the Government obtained under conditions that restrict the Government's right to use and disclose the data and information, or which may be of such a nature that its dissemination or use other than in the performance of this contract would be adverse to the interests of the Government or other parties. Therefore, the Contractor and its subcontractors agree to abide by any restrictive use conditions on such data and not to:

(1) Knowingly disclose such data and information to others without written authorization from the Contracting Officer, unless the Government has made the data and information available to the public; nor

(2) Use for any purpose other than the performance of this contract that data which bears a restrictive marking or legend.

B. In the event the work required to be performed under this contract requires access to proprietary data of other companies, the Contractor shall obtain agreements from such other companies for such use unless such data is provided or made available to the Contractor by the Government. Two copies of such company-to-company agreements shall be furnished promptly to the Contracting Officer for information only. These agreements shall prescribe the scope of authorized use or disclosure, and other terms and conditions to be agreed upon between the parties. It is agreed by the Contractor that any such

data, whether obtained by the Contractor pursuant to the aforesaid agreement or from the Government, shall be protected from unauthorized use or disclosure to any individual, corporation, or organization so long as it remains proprietary.

C. Through formal training in company policy and procedures, the Contractor agrees to make employees aware of the absolute necessity to maintain the confidentiality of data and information, as required above, and further aware of the sanctions which may be imposed for divulging either the proprietary data of other companies or data that is obtained from the Government to anyone except as authorized. The Contractor shall obtain from each employee engaged in any effort connected with this contract an agreement, in writing, which shall in substance provide that such employee will not during his/her employment by the Contractor, or thereafter, disclose to others or use for his/her own benefit or the future benefit of any individual any trade secrets, confidential information, or proprietary/restricted data (to include Government "For Official Use Only") received in connection with the work under this contract. The Contractor shall furnish a sample form of this agreement to the Contracting Officer promptly after award.

D. The Contractor agrees to hold the Government harmless and indemnify the Government as to any cost/loss resulting from the unauthorized use of disclosure of third party data or software by the Contractor, its employees, subcontractors, or agents.

E. The Contractor agrees to include the substance of this provision in all subcontracts awarded under this contract. The Contracting Officer will consider case-by-case exceptions from this requirement for individual subcontracts in the event that

- (1) the Contractor considers the application of the prohibitions of this provision to be inappropriate and unnecessary in the case of a particular subcontractor;
- (2) the subcontractor provides a written statement affirming absolute unwillingness to perform absent some relief from the substance of this prohibition;
- (3) use of an alternate subcontract source would reasonably detract from the quality of effort; and
- (4) the Contractor provides the Contracting Officer timely written advance notice of these and any other extenuating circumstances.

F. Except as the Contracting Officer specifically authorizes in writing, upon completion of all work under this contract the Contractor shall return all such data and information obtained from the Government, including all copies, modifications, adaptations, or combinations thereof, to the Contracting Officer. Data obtained from another company shall be disposed of in accordance with the Contractor's agreement with that company, or, if the agreement makes no provision for disposition, shall be returned to that company. The Contractor shall further certify in writing to the Contracting Officer that all copies, modifications, adaptations or combinations of such data or information which cannot reasonably be returned to the Contracting Officer (or to a company) have been deleted from the Contractor's (and any subcontractor's) records and destroyed.

G. These restrictions do not limit the Contractor's (or subcontractor's) right to use and disclose any data and information obtained from another source without restriction.

H. As used herein, the term "data" has the meaning set forth in Federal Acquisition Regulations, clause 52.227-14, "Rights in Data - General," and includes, but is not limited to, computer software, as also defined in Clause 52.227-14.

H.4 TECHNOLOGY UPGRADES/REFRESHMENTS. DEC 1998

After issuance of a task order, the Government may solicit, and the Contractor is encouraged to propose independently, technology improvements to the hardware, software,

specifications, or other requirements of the contract. These improvements may be proposed to save money, to improve performance, to save energy, to satisfy increased data processing requirements, or for any other purpose which presents a technological advantage to the Government. As part of the proposed changes, the Contractor shall submit a price or cost proposal to the Contracting Officer for evaluation. Those proposed technology improvements that are acceptable to the Government will be processed as modifications to the task order. As a minimum, the following information shall be submitted by the Contractor with each proposal:

- (1) A description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each;
- (2) Itemized requirements of the task order which must be changed if the proposal is adopted, and the proposed revision to the contract for each such change;
- (3) An estimate of the changes in performance and price or cost, if any, that will result from adoption of the proposal;
- (4) An evaluation of the effects the proposed changes would have on collateral costs to the Government, such as Government-furnished property costs, costs of related items, and costs of maintenance, operation and conversion (including Government application software);
- (5) A statement of the time by which the task order modification adopting the proposal must be issued so as to obtain the maximum benefits of the changes during the remainder of the task order including supporting rationale; and
- (6) Any effect on the task order completion time or delivery schedule shall be identified.

The Government will not be liable for proposal preparation costs or any delay in acting upon any proposal submitted pursuant to this clause. The Contractor has a right to withdraw, in whole or in part, any proposal not accepted by the Government within the period specified in the proposal. The decision of the Contracting Officer as to the acceptance of any such proposal under this contract is final and not subject to the "Disputes" clause of this contract.

If the Government wishes to test and evaluate any item(s) proposed, the Contracting Officer will issue written directions to the Contractor specifying what item(s) will be tested, where and when the item(s) will be tested, to whom the item(s) is to be delivered, and the number of days (not to exceed 90 calendar days) that the item will be tested.

The Contracting Officer may accept any proposal submitted pursuant to this clause by giving the Contractor written notice thereof. This written notice will be given by issuance of a modification to the task order. Unless and until a modification is executed to incorporate a proposal under this contract, the Contractor shall remain obligated to perform in accordance with the requirements, terms and conditions of the existing task order.

If a proposal submitted pursuant to this clause is accepted and applied to this contract, the equitable adjustment increasing or decreasing the price, Cost-Plus-Fixed-Fee, or Cost-Plus-Award-Fee shall be in accordance with the procedures of the applicable "Changes" clause. The resulting task order modification will state that it is made pursuant to this clause.

H.5 SUBCONTRACT APPROVAL. DEC 1998

A. The Contractor's subcontracting plan dated [to be completed at time of award for other than small business concerns] in support of this Contract, is hereby approved and incorporated herein. The Contractor is granted consent to enter into subcontracting agreements with those companies identified in the subcontracting plan, or for small business firms the Contractor originally proposed as subcontractors.

B. Since this is indefinite-delivery/indefinite-quantity (IDIQ) contract, most subcontracts for professional labor shall also be placed on an IDIQ basis. Only first-tier subcontractors are allowed unless the Contractor can provide a strong technical rationale for inclusion of a second-tier subcontract and demonstrate what steps have been taken to prevent layering of costs and profit.

C. The Contractor shall follow the procedures specified in Part 44 of the FAR and FAR clauses 52.244-1 and 52.244-2 when providing advance notification or requesting consent to new subcontracts. New subcontracts may be necessary for professional labor in cases where it is clearly evident to the Contracting Officer that the proposed new subcontract will provide a capability that is both required to perform work described in the contract and is not available from any of the Contractor's existing team of subcontractors. In such cases, task order proposals must include at least 75% (labor hours) of the Contractor's current team (the prime and previously-consented-to subcontracts). The remaining 25% may include new subcontracts, which have not been previously consented to. Task order proposals failing to comply with this minimum will be rejected.

H.6 TASK ORDER LIMITATIONS. DEC 1998

A. The issuance of Task Order(s) (TO) hereunder does not relieve the Contractor of its responsibilities under Clause 52.232-22, Limitation of Funds, and/or FAR 52.232-20, Limitation of Costs. The applicable clause, Limitation of Funds (LOF), for incrementally funded TOs and Limitation of Costs (LOC), for fully funded TOs apply to individual TOs as well as to the contract as a whole.

B. Costs incurred under a TO shall relate only to the performance of the work called for in that TO. The level of effort or the funds allocated to a TO may not be applied to work under any other TO issued under the contract without the written authorization of the Contracting Officer.

C. The term "Task Order" shall be substituted for "schedule" wherever the word appears in FAR clauses 52.232-20, Limitation of Cost, or 52.232-22, Limitation of Funds, as specified. In the event that fully funded tasks are issued under a TO, the provisions of the appropriate clauses shall apply to each task as if it were a TO.

H.7 INSURANCE. DEC 1998

See Section I - Contract Clause FAR 52.228-7, "Insurance-Liability to Third Persons. MAR 1996"

A. The Contractor shall secure, pay the premiums for and keep in force until the expiration of this contract, and any renewal thereof, adequate insurance as provided below, such insurance to specifically include liability assumed by the Contractor under this contract.

- (1) Workman's compensation insurance as required by law of the State.
- (2) Comprehensive bodily injury liability insurance with limits of not less than \$500,000 for each accident.
- (3) Property damage liability with a limit of not less than \$100,000 for each accident.
- (4) Automotive bodily injury liability insurance with limits of not less than \$200,000 for each person and \$500,000 for each accident, and property damage liability insurance, with a limit of not less than \$40,000 for each accident.

B. Each policy of insurance shall contain an endorsement that any cancellation or material change in the coverage adversely affecting the Government's interest shall not be effective unless the insurer or the Contractor gives written notice of cancellation or change to the Contracting Officer at least thirty (30) calendar days prior to the aforementioned actions. When the coverage is provided by self-insurance, the Contractor shall not change or decrease the coverage without the Administrative Contracting Officer's prior approval.

C. A certificate of each policy of insurance shall be furnished to the Contracting Officer within ten (10) days after notice of award certifying, among other things, that the policy contains the aforesaid endorsement. The insurance companies providing the above insurance shall be satisfactory to the Government. Notices of policy changes shall be furnished to the Contracting Officer.

H.8 TASK ORDERS ISSUED UNDER MULTIPLE AWARD CONTRACTS. DEC 1998

A. All Contractors shall be provided a fair opportunity to be considered pursuant to the procedures set below, for each task order to be issued unless:

- (1) The Government's need for the services or property ordered is of such unusual urgency that providing such opportunity to all Contractors would result in unacceptable delays in fulfilling that need;
- (2) Only one Contractor is capable of providing the services or property required at the level of quality required because the services or property ordered are unique or highly specialized;
- (3) The task order should be issued on a sole-source basis in the interest of economy and efficiency because it is a logical follow-on to a task order already issued under this contract, provided that all awardees were given a fair opportunity to be considered for the original order;
- (4) It is necessary to place the order with a particular Contractor in order to satisfy a minimum order; or
- (5) It is necessary to limit competition to meet preference program goals.

B. Unless the procedures in paragraph (A) are used for awarding individual orders, multiple award Contractors will be provided a fair opportunity to be considered for each order using the following procedures:

- (1) The Government will examine existing information already in the Government's possession such as awardee's original proposal and proposals in response to task order Requests for Proposal (labor rates, indirect rates, technical/management approaches, etc.) and current past performance report records. As work proceeds under this contract,

past performance report records submitted with the original proposal will be de-emphasized in favor of past performance reports received on task orders performed under this contract. The Government's examination of existing information will be conducted in light of the functional and/or technical areas of the requirement and used to determine which awardees will be requested to submit a proposal for the requirement. Brief surveys may also be conducted to determine which awardees have interest and capability in a particular requirement.

(2) Once the Government determines which awardees will be asked to submit a proposal for the requirement, the Contracting Officer may contact Contractors to identify resource availability and price/cost for well-defined tasks. The Contracting Officer may issue written requests to the Contractors requesting the submission of written and/or oral or videotaped technical offers for complex tasks where a technical approach, as well as resource availability and price/cost, need to be considered.

(3) A written cost proposal will always be required for all task orders to be issued under this contract. The cost proposal shall include detailed cost/price for all resources required to accomplish the task, (i.e. labor hours, rates, travel, incidental equipment, etc.). Proposals submitted for cost type task orders will be based on average category rates or current salary rates (whichever method the Offeror customarily uses), as indicated by the Contractor's or the subcontractor's current payroll data, and the current provisional indirect rates, as indicated by the latest indirect rate negotiation from the cognizant auditor of the Contractor. Offerors shall provide current, up-to-date copies of the negotiated provisional indirect rates for the Contractor and any subcontractors with their offers for individual task orders unless this information has previously been provided to the Contracting Officer. Offerors shall also provide an explanation of any significant difference (10% or more) between any labor rate proposed and the rate proposed under the base contract. Any significant difference between the ratio of administrative hours to professional hours proposed for the task order versus the ratio of administrative hours proposed to professional hours for the base contract must be explained. Any significant inconsistency between the type and amount of other direct costs (ODCs) proposed for the task and the type and ODCs proposed under the base contract must also be justified. Both "sanitized" and "unsanitized" cost proposals will be required. "Unsanitized" cost proposals are complete cost proposals which include all required information. "Sanitized" cost proposals shall exclude all company proprietary or sensitive data, but must include a breakdown of the total labor hours proposed and a breakout of the types and associated costs of all proposed ODCs.

(4) Offerors who are not small businesses shall submit a Small Business and Small Disadvantaged Business and Women-Owned Small Business Subcontracting Plan for each task order equal to or exceeding \$500,000. For those Offerors that have an approved Master Subcontracting Plan under the contract, only subcontracting information relating to the particular task order will be required. The subcontracting plan submitted must be acceptable to the Contracting Officer in order for a Contractor to be considered for award of a task.

(5) Each request for proposal will include the following: (a) the Statement of Work (SOW); (b) the evaluation criteria which will be used to evaluate the offers; (c) the components of the offer (technical and/or price/cost or other factors) to be submitted; (d) the format for submission; (e) the time frame for submission of the offer; (f) applicable Representations, Certifications, and Other Statements of Offerors; and (g) any other relevant instructions to the Contractor.

(6) Upon receipt of a request for proposal (RFP), the Contractor may submit an offer to the Contracting Officer which must include the technical, cost, and any other information requested. The proposal must be submitted by the time specified in the request.

(7) The method of evaluation and selection of an awardee for a task order will be identified in the request for proposal. Selection methods may include award to lowest evaluated cost/technically acceptable offer or the highest composite technical/price rating. The method of evaluation, weighting, and selection will be described in individual task order solicitations.

(8) The Government shall have the right to select the Contractor based on initial offers without discussions, but the Government reserves the right to hold discussions after evaluation of initial offers, at the Contracting Officer's discretion.

(9) If the Government determines that certain personnel are key to successful completion of a task order, they shall be designated as Key Personnel for the task order pursuant to TAR 1252.215-70, Section I.

(10) The Government may debrief unsuccessful Offerors on a task order RFP. Written requests must be made within five (5) days of the notice of award for a specific task order. Based upon the extent/complexity of a specific task order, the Government shall decide whether a debriefing will be held and, if so, what form the debriefing will take (e.g. meeting, letter, teleconference, etc.).

H.9 DOT INFORMATION SECURITY REQUIREMENTS. APR 2003

1. Access to Sensitive Information.

a. Work under this contract may involve access to sensitive information, as described in paragraph d below, which shall not be disclosed by the contractor unless authorized by the contracting officer. To protect sensitive information, the contractor shall provide training to any contractor employee authorized access to sensitive information and, upon request of the Government, provide information as to an individual's suitability to have such authorization. Contractor employees found by the Government to be unsuitable or whose employment is deemed contrary to the public interest or inconsistent with the best interest of national security, may be prevented from performing work under the particular contract when requested by the contracting officer.

b. The contractor shall ensure that contractor employees are: (1) citizens of the United States of America or an alien who has been lawfully admitted for permanent residence or employment (indicated by immigration status) as evidenced by Immigration and Naturalization Service documentation; and (2) have background investigations in accordance with DOT Order 1630.2B, Personnel Security Management.

c. The contractor shall include the above requirements in any subcontract awarded involving access to Government facilities, sensitive information, and/or resources.

d. Sensitive Information is proprietary data or other information that, if subject to unauthorized access, modification, loss or misuse could adversely affect national interest, conduct of Federal programs, or privacy of individuals specified in the Privacy Act, but has not been specifically authorized to be kept secret in the interest of national defense or foreign policy under an Executive Order or Act of Congress."

2. Information Technology (IT) Services.

a. The contractor shall be responsible for IT security for all systems operated by or connected to a DOT network, regardless of location. This includes any IT resources or services in which the contractor has physical or electronic access to DOT's sensitive information that directly supports the mission of DOT (e.g., hosting DOT e-Government sites or other IT operations). If necessary, the Government shall have access to

contractor and any subcontractor facilities, systems/networks operated on behalf of DOT, documentation, databases and personnel to carry out a program of IT inspection (to include vulnerability scanning), investigation and audit to safeguard against threats and hazards to DOT data or IT systems.

b. Within 30 days of contract award, the contractor shall develop and provide to the Government for approval, an IT Security Plan which describes the processes and procedures the contractor will follow in performance of this contract to ensure the appropriate security of IT resources developed, processed, or used under this contract. This Plan shall be written and implemented in accordance with applicable Federal laws including: The Computer Security Act of 1987 (40 U.S.C. 1441 et seq.), the Clinger-Cohen Act of 1996, and the Government Information Security Reform Act (GISRA) of 2000 and meet Government IT security requirements including: OMB Circular A-130, Management of Federal Information Resources, Appendix 111, Security of Federal Automated Information Resources; National Institute of Standards and Technology (NIST) Guidelines; Departmental Information Resource Management Manual (DIRMM) and associated guidelines; and DOT Order 1630.2B, Personnel Security Management.

c. The contractor shall screen their personnel requiring privileged access or limited privileged access to systems operated by the contractor for DOT or interconnected to a DOT network in accordance with DOT Order 1630.2B, Personnel Security Management and ensure contractor employees are trained annually in accordance with OMB Circular A-130, GISRA, and NIST requirements with a specific emphasis on rules of behavior.

d. The contractor shall immediately notify the contracting officer when an employee terminates employment that has access to DOT information systems or data.

e. The contractor shall include the above requirements in any subcontract awarded for IT services.

f. IT means any equipment or interconnected system or subsystem of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information and as further defined in OMB Circular A-130 and the Federal Acquisition Regulation Part 2.

SECTION I - CONTRACT CLAUSES

I.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE. FEB 1998

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/> - Federal Acquisition Regulation

<http://www.dot.gov/ost/m60/tamtar/tar.htm> - Transportation Acquisition Regulation

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

52.202-1	DEFINITIONS.	DEC 2001
52.203-3	GRATUITIES.	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES.	APR 1984
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT.	JUL 1995
52.203-7	ANTI-KICKBACK PROCEDURES.	JUL 1995
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY.	JAN 1997
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY.	JAN 1997
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS.	JUN 1997
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER.	AUG 2000
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT.	JUL 1995
52.215-2	AUDIT AND RECORDS - NEGOTIATION.	JUN 1999
52.215-8	ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT.	OCT 1997
52.215-14	INTEGRITY OF UNIT PRICES.	OCT 1997
52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS.	DEC 1998
52.215-17	WAIVER OF FACILITIES CAPITAL COST OF MONEY.	OCT 1997
52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS.	OCT 1997
52.215-21	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA-MODIFICATIONS.	OCT 1997
52.216-7	ALLOWABLE COST AND PAYMENT.	DEC 2002
52.216-8	FIXED FEE.	MAR 1997
52.216-18	ORDERING. <i>[Date of Contract Award]</i> through <i>[Five Years From Date of Contract Award.]</i>	OCT 1995
52.216-19	ORDER LIMITATIONS. (a) <i>[\$2,500.00]</i> , (b) (1) <i>[\$1,000,000.00]</i> ; (b) (2) <i>[\$1,000,000.00]</i> ; (b) (3) <i>[seven]</i> ; (d) <i>[seven]</i> .	OCT 1995.
52.216-22	INDEFINITE QUANTITY. (d) <i>[six months after the end of the term of the contract.]</i>	OCT 1995.
52.217-8	OPTION TO EXTEND SERVICES. <i>[60 days]</i> .	NOV 1999
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS.	OCT 2000
52.219-9	SMALL BUSINESS SUBCONTRACTING PLAN. - ALTERNATE II	JAN 2002 OCT 2001
52.219-16	LIQUIDATED DAMAGES - SUBCONTRACTING PLAN.	JAN 1999
52.219-23	NOTICE OF PRICE EVALUATION ADJUSTMENT FOR SMALL	

	DISADVANTAGED BUSINESS CONCERNS.	MAY 2001
	(b) [10%]	
52.219-25	SMALL DISADVANTAGED BUSINESS PARTICIPATION	
	PROGRAM-DISADVANTAGED STATUS AND REPORTING.	OCT 1999
52.222-2	PAYMENT FOR OVERTIME PREMIUMS.	JUL 1990
	(a) [\$0.00]	
52.222-3	CONVICT LABOR.	AUG 1996
52.222-21	PROHIBITION OF SEGREGATED FACILITIES.	FEB 1999
52.222-26	EQUAL OPPORTUNITY.	APR 2002
52.222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS,	
	VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE	
	VETERANS.	DEC 2001
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES.	JUN 1998
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS,	
	VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE	
	VETERANS.	DEC 2001
52.223-5	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION.	APR 1998
52.223-6	DRUG-FREE WORKPLACE.	MAY 2001
52.223-14	TOXIC CHEMICAL RELEASE REPORTING.	OCT 2000
52.225-3	BUY AMERICAN ACT - NORTH AMERICAN FREE	
	TRADE AGREEMENT - ISRAELI TRADE ACT.	MAY 2002
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES.	JUL 2000
52.225-14	INCONSISTENCY BETWEEN ENGLISH VERSION AND	
	TRANSLATION OF CONTRACT.	FEB 2000
52.227-1	AUTHORIZATION AND CONSENT.	JUL 1995
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND	
	COPYRIGHT INFRINGEMENT.	AUG 1996
52.227-3	PATENT INDEMNITY.	APR 1984
52.227-12	PATENT RIGHTS - RETENTION BY THE CONTRACTOR	
	(LONG FORM).	JAN 1997
52.227-14	RIGHTS IN DATA - GENERAL.	JUN 1987
52.227-16	ADDITIONAL DATA REQUIREMENTS.	JUN 1987
52.227-19	COMMERCIAL COMPUTER SOFTWARE - RESTRICTED RIGHTS.	JUN 1987
52.228-7	INSURANCE - LIABILITY TO THIRD PERSONS.	MAR 1996
52.230-2	COST ACCOUNTING STANDARDS.	APR 1998
52.230-3	DISCLOSURE AND CONSISTENCY OF COST ACCOUNTING	
	PRACTICES.	APR 1998
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS.	NOV 1999
52.232-17	INTEREST.	JUN 1996
52.232-20	LIMITATION OF COST.	APR 1984
52.232-22	LIMITATION OF FUNDS.	APR 1984
52.232-23	ASSIGNMENT OF CLAIMS.	JAN 1986
52.232-25	PROMPT PAYMENT.	FEB 2002
52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER -	
	CENTRAL CONTRACTOR REGISTRATION.	MAY 1999
52.233-1	DISPUTES.	JUL 2002
	ALTERNATE I	DEC 1991
52.233-3	PROTEST AFTER AWARD.	AUG 1996
	ALTERNATE I	JUN 1985
52.239-1	PRIVACY OR SECURITY SAFEGUARDS.	AUG 1996
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS.	APR 1984
52.242-3	PENALTIES FOR UNALLOWABLE COSTS.	MAY 2001
52.242-4	CERTIFICATION OF FINAL INDIRECT COSTS.	JAN 1997
52.242-13	BANKRUPTCY.	JUL 1995
52.243-2	CHANGES - COST-REIMBURSEMENT.	AUG 1987
	ALTERNATE II	APR 1984
52.244-2	SUBCONTRACTS.	AUG 1998

	ALTERNATE II	AUG 1998
	(e) and (k) [(To be specified at time of contract award)]	
52.244-5	COMPETITION IN SUBCONTRACTING.	DEC 1996
52.245-5	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS).	JAN 1986
52.245-19	GOVERNMENT PROPERTY FURNISHED "AS IS."	APR 1984
52.246-25	LIMITATION OF LIABILITY - SERVICES.	FEB 1997
52.247-1	COMMERCIAL BILL OF LADING NOTATIONS.	APR 1984
	(a) [Volpe National Transportation Systems Center].	
	(b) [Volpe National Transportation Systems Center] [to be completed at time of contract award].	
52.247-63	PREFERENCE FOR U.S.-FLAG AIR CARRIERS.	JAN 1997
52.248-1	VALUE ENGINEERING.	FEB 2000
52.249-6	TERMINATION (COST-REIMBURSEMENT).	SEP 1996
52.249-14	EXCUSABLE DELAYS.	APR 1984
52.251-1	GOVERNMENT SUPPLY SOURCES.	APR 1984
52.253-1	COMPUTER GENERATED FORMS.	JAN 1991

II.....TRANSPORTATION ACQUISITION REGULATION (48 CFR CHAPTER 12) CLAUSES

1252.215-70 KEY PERSONNEL AND/OR FACILITIES. OCT 1994

The Key Personnel and/or Facilities under this contract:

Program Manager
Senior Engineers, Applied Mechanics
Senior Engineers, Biomechanics
Senior Operations Research Analysts
Middle Engineers, Applied Mechanics
Middle Engineers, Biomechanics
Middle Operations Research Analysts
Staff Engineers, Applied Mechanics
Staff Engineers, Biomechanics
Staff Operations Research Analysts
Senior Technicians

1252.223-71 ACCIDENT AND FIRE REPORTING. OCT 1994

1252.237-70 QUALIFICATIONS OF EMPLOYEES. OCT 1994

1252.242-72 DISSEMINATION OF CONTRACT INFORMATION. OCT 1994

1252.245-70 GOVERNMENT PROPERTY REPORTS. OCT 1994

I.2 52.204-1 APPROVAL OF CONTRACT. DEC 1989

This contract is subject to the written approval of [**Chief, Contracts and Small Business Programs Branch**] and shall not be binding until so approved.

I.3 52.215-19 NOTIFICATION OF OWNERSHIP CHANGES. OCT 1997

(a) The Contractor shall make the following notifications in writing:

- (1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.
- (2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall-

- (1) Maintain current, accurate, and complete inventory records of assets and their costs;
- (2) Provide the ACO or designated representative ready access to the records upon request;
- (3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and
- (4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

(c) The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

I.4 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS. MAY 2002

(a) Definitions. As used in this clause-

"Commercial item" has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract" includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (Oct 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212(a));

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (June 2000) (46 U.S.C. Appx 1241) (flowdown not required for subcontracts awarded beginning May 1, 1996).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

I.5 52.247-67 SUBMISSION OF COMMERCIAL TRANSPORTATION BILLS TO THE GENERAL SERVICES ADMINISTRATION FOR AUDIT. JUN 1997

(a)(1) In accordance with paragraph (a)(2) of this clause, the Contractor shall submit to the General Services Administration (GSA) for audit, legible copies of all paid freight bills/invoices, commercial bills of lading (CBL's), passenger coupons, and other supporting documents for transportation services on which the United States will assume freight charges that were paid-

(i) By the Contractor under a cost-reimbursement contract; and

(ii) By a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(2) Cost-reimbursement Contractors shall only submit for audit those CBL's with freight shipment charges exceeding \$50.00. Bills under \$50.00 shall be retained on-site by the Contractor and made available for GSA on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(b) The Contractor shall forward copies of paid freight bills/invoices, CBL's, passenger coupons, and supporting documents as soon as possible following the end of the month, in one package to the:

General Services Administration
Attn: FWA
1800 F Street, NW
Washington, DC 20405.

The Contractor shall include the paid freight bills/invoices, CBL's, passenger coupons,

and supporting documents for first-tier subcontractors under a cost-reimbursement contract. If the inclusion of the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for any subcontractor in the shipment is not practicable, the documents may be forwarded to GSA in a separate package.

(c) Any original transportation bills or other documents requested by GSA shall be forwarded promptly by the Contractor to GSA. The Contractor shall ensure that the name of the contracting agency is stamped or written on the face of the bill before sending it to GSA.

(d) A statement prepared in duplicate by the Contractor shall accompany each shipment of transportation documents. GSA will acknowledge receipt of the shipment by signing and returning the copy of the statement. The statement shall show-

- (1) The name and address of the Contractor;
- (2) The contract number including any alpha-numeric prefix identifying the contracting office;
- (3) The name and address of the contracting office;
- (4) The total number of bills submitted with the statement; and
- (5) A listing of the respective amounts paid or, in lieu of such listing, an adding machine tape of the amounts paid showing the Contractor's voucher or check numbers.

SECTION J - LIST OF ATTACHMENTS

J.1 HYPOTHETICAL TASK 1 REFERENCES

J.2 HYPOTHETICAL TASK 2 REFERENCES

J.3 HYPOTHETICAL TASK 3 REFERENCES

**SECTION K - REPRESENTATIONS, CERTIFICATIONS,
AND OTHER STATEMENTS OF OFFERORS OR QUOTERS**

K.1 SIGNATURE. MAY 1999

By execution and submission of this statement, the undersigned acknowledges that he/she has reviewed and, where appropriate, has fully and accurately completed each of the certifications and/or representations contained in Section K of this solicitation for the purpose(s) set forth therein, and that he/she has been authorized to do so on behalf of the Offeror.

Signature

Typed Name, Title

Offeror

Date

K.2 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE.

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN
FEDERAL TRANSACTIONS. APR 1991

K.3 52.204-3 TAXPAYER IDENTIFICATION. OCT 1998

(a) *Definitions.*

"Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the Offeror is a member.

"Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the Offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All Offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the Offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the Offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the Offeror's TIN.

(d) *Taxpayer Identification Number (TIN).*

[] TIN: _____.

☐ TIN has been applied for.

☐ TIN is not required because:

☐ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

☐ Offeror is an agency or instrumentality of a foreign government;

☐ Offeror is an agency or instrumentality of the Federal Government.

(e) *Type of organization.*

☐ Sole proprietorship;

☐ Partnership;

☐ Corporate entity (not tax-exempt);

☐ Corporate entity (tax-exempt);

☐ Government entity (Federal, State, or local);

☐ Foreign government;

☐ International organization per 26 CFR 1.6049-4;

☐ Other _____.

(f) *Common parent.*

☐ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

☐ Name and TIN of common parent:

Name _____

TIN _____

K.4 52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) . MAY 1999

(a) *Definition.* "Women-owned business concern," as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) *Representation.* [Complete only if the Offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b) (1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The Offeror represents that it * is a women-owned business concern.

K.5 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS. DEC 2001

(a) (1) The Offeror certifies, to the best of its knowledge and belief, that -

(i) The Offeror and/or any of its Principals -

(A) Are ☐ are not ☐ presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ☐ have not ☐, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ☐ are not ☐ presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a) (1) (i) (B) of this provision.

(ii) The Offeror has ☐ has not ☐, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

K.6 52.215-6 PLACE OF PERFORMANCE. OCT 1997

(a) The Offeror or respondent, in the performance of any contract resulting from this solicitation, [] intends, [] does not intend [*check applicable block*] to use one or more plants or facilities located at a different address from the address of the Offeror or respondent as indicated in this proposal or response to request for information.

(b) If the Offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following spaces the required information:

Place of Performance (Street Address, City, State, County, Zip Code)	Name and Address of Owner and Operator of the Plant or Facility if Other than Offeror or Respondent
--	--

_____	_____
_____	_____

K.7 52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS. APR 2002

(a) (1) The North American Industry Classification System (NAICS) code for this acquisition is [541690].

(2) The small business size standard is [\$6.0 Mil].

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) *Representations.* (1) The Offeror represents as part of its offer that it [] is, [] is not a small business concern.

(2) [*Complete only if the Offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The Offeror represents, for general statistical purposes, that it [] is, [] is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) [*Complete only if the Offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The Offeror represents as part of its offer that it [] is, [] is not a women-owned small business concern.

(4) [*Complete only if the Offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The Offeror represents as part of its offer that it [] is, [] is not a veteran-owned small business concern.

(5) [*Complete only if the Offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.*] The Offeror represents as part of its offer that it [] is, [] is not a service-disabled veteran-owned small business concern.

(6) [*Complete only if the Offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The Offeror represents, as part of its offer, that—

(i) It [] is, [] is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by

the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It [] is, [] is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. [The Offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(c) *Definitions.* As used in this provision -

"Service-disabled veteran-owned small business concern" -

(1) Means a small business concern -

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (a) of this provision.

"Veteran-owned small business concern" means a small business concern -

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern" means a small business concern -

(1) That is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) *Notice.* (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small,

HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall -

- (i) Be punished by imposition of fine, imprisonment, or both;
- (ii) Be subject to administrative remedies, including suspension and debarment; and
- (iii) Be ineligible for participation in programs conducted under the authority of the Act.

K.8 52.219-22 SMALL DISADVANTAGED BUSINESS STATUS. OCT 1999

(a) General. This provision is used to assess an Offeror's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.

(b) Representations. (1) General. The Offeror represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either -

[] (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

(A) No material change in disadvantaged ownership and control has occurred since its certification;

(B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c) (2); and

(C) It is identified, on the date of its representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net); or

[] (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(2) [] For Joint Ventures. The Offeror represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b) (1) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The Offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture:_____.]

(c) Penalties and Remedies. Anyone who misrepresents any aspects of the disadvantaged status of a concern for the purposes of securing a contract or subcontract shall -

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

K.9 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS. FEB 1999

The Offeror represents that -

(a) It ☐ has, ☐ has not participated in a previous contract or subcontract subject the Equal Opportunity clause of this solicitation;

(b) It ☐ has, ☐ has not filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

K.10 52.222-25 AFFIRMATIVE ACTION COMPLIANCE. APR 1984

The Offeror represents that -

(a) It ☐ has developed and has on file, ☐ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2); or

(b) It ☐ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

K.11 52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING. OCT 2000

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the Offeror certifies that -

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the Offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: *[Check each block that is applicable.]*

☐ (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

☐ (ii) The facility does not have 10 or more full-time employees as specified in section 313(b) (1) (A) of EPCRA, 42 U.S.C. 11023(b) (1) (A);

☐ (iii) The facility does not meet the reporting thresholds of toxic chemicals

established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

[] (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

[] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

K.12 52.225-1 BUY AMERICAN ACT - SUPPLIES. MAY 2002

(a) Definitions. As used in this clause -

"Component" means an article, material, or supply incorporated directly into an end product.

"Cost of components" means -

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

"Domestic end product" means -

(1) An unmanufactured end product mined or produced in the United States; or

(2) An end product manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind as those that the agency determines are not mined, produced, or manufactured in sufficient and reasonably available commercial quantities of a satisfactory quality are treated as domestic. Scrap generated, collected, and prepared for processing in the United States is considered domestic.

"End product" means those articles, materials, and supplies to be acquired under the contract for public use.

"Foreign end product" means an end product other than a domestic end product.

"United States" means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

(b) The Buy American Act (41 U.S.C. 10a-10d) provides a preference for domestic end products for supplies acquired for use in the United States.

(c) Offerors may obtain from the Contracting Officer a list of foreign articles that the Contracting Officer will treat as domestic for this contract.

(d) The Contractor shall deliver only domestic end products except to the extent that it specified delivery of foreign end products in the provision of the solicitation entitled "Buy American Act - Certificate."

K.13 52.225-8 DUTY-FREE ENTRY. FEB 2000

(a) *Definition.* "Customs territory of the United States" means the States, the District of Columbia, and Puerto Rico.

(b) Except as otherwise approved by the Contracting Officer, the Contractor shall not include in the contract price any amount for duties on supplies specifically identified in the Schedule to be accorded duty-free entry.

(c) Except as provided in paragraph (d) of this clause or elsewhere in this contract, the following procedures apply to supplies not identified in the Schedule to be accorded duty-free entry:

(1) The Contractor shall notify the Contracting Officer in writing of any purchase of foreign supplies (including, without limitation, raw materials, components, and intermediate assemblies) in excess of \$10,000 that are to be imported into the customs territory of the United States for delivery to the Government under this contract, either as end products or for incorporation into end products. The Contractor shall furnish the notice to the Contracting Officer at least 20 calendar days before the importation. The notice shall identify the -

(i) Foreign supplies;

(ii) Estimated amount of duty; and

(iii) Country of origin.

(2) The Contracting Officer will determine whether any of these supplies should be accorded duty-free entry and will notify the Contractor within 10 calendar days after receipt of the Contractor's notification.

(3) Except as otherwise approved by the Contracting Officer, the contract price shall be reduced by (or the allowable cost shall not include) the amount of duty that would be payable if the supplies were not entered duty-free.

(d) The Contractor is not required to provide the notification under paragraph (c) of this clause for purchases of foreign supplies if -

(1) The supplies are identical in nature to items purchased by the Contractor or any subcontractor in connection with its commercial business; and

(2) Segregation of these supplies to ensure use only on Government contracts containing duty-free entry provisions is not economical or feasible.

(e) The Contractor shall claim duty-free entry only for supplies to be delivered to the Government under this contract, either as end products or incorporated into end products, and shall pay duty on supplies, or any portion of them, other than scrap, salvage, or competitive sale authorized by the Contracting Officer, diverted to nongovernmental use.

(f) The Government will execute any required duty-free entry certificates for supplies to be accorded duty-free entry and will assist the Contractor in obtaining duty-free entry for these supplies.

(g) Shipping documents for supplies to be accorded duty-free entry shall consign the shipments to the contracting agency in care of the Contractor and shall include the -

(1) Delivery address of the Contractor (or contracting agency, if appropriate);

(2) Government prime contract number;

(3) Identification of carrier;

(4) Notation "UNITED STATES GOVERNMENT, [agency], Duty-free entry to be claimed pursuant to Item No(s) [from Tariff Schedules], Harmonized Tariff Schedules of the United States. Upon arrival of shipment at port of entry, District Director of Customs, please release shipment under 19 CFR part 142 and notify [cognizant contract administration office] for execution of Customs Forms 7501 and 7501-A and any required duty-free entry certificates.";

(5) Gross weight in pounds (if freight is based on space tonnage, state cubic feet in addition to gross shipping weight); and

(6) Estimated value in United States dollars.

(h) The Contractor shall instruct the foreign supplier to -

(1) Consign the shipment as specified in paragraph (g) of this clause;

(2) Mark all packages with the words "UNITED STATES GOVERNMENT" and the title of the contracting agency; and

(3) Include with the shipment at least two copies of the bill of lading (or other shipping document) for use by the District Director of Customs at the port of entry.

(i) The Contractor shall provide written notice to the cognizant contract administration office immediately after notification by the Contracting Officer that duty-free entry will be accorded foreign supplies or, for duty-free supplies identified in the Schedule, upon award by the Contractor to the overseas supplier. The notice shall identify the -

(1) Foreign supplies;

(2) Country of origin;

(3) Contract number; and

(4) Scheduled delivery date(s).

(j) The Contractor shall include the substance of this clause in any subcontract if -

(1) Supplies identified in the Schedule to be accorded duty-free entry will be imported into the customs territory of the United States; or

(2) Other foreign supplies in excess of \$10,000 may be imported into the customs territory of the United States.

K.14 52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION. MAY 2001

(a) Definitions. As used in this provision--

"Historically black college or university" means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institution" means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1067k, including a Hispanic-serving institution of higher education, as defined in Section 316(b)(1) of the Act (20 U.S.C. 1101a)).

(b) Representation. The Offeror represents that it--

[] is [] is not a historically black college or university;

[] is [] is not a minority institution.

K.15 52.227-6 ROYALTY INFORMATION. APR 1984

(a) *Cost or charges for royalties.* When the response to this solicitation contains costs or charges for royalties totaling more than \$250, the following information shall be included in the response relating to each separate item of royalty or license fee:

(1) Name and address of licensor.

(2) Date of license agreement.

(3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.

(4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.

(5) Percentage or dollar rate of royalty per unit.

(6) Unit price of contract item.

(7) Number of units.

(8) Total dollar amount of royalties.

(b) *Copies of current licenses.* In addition, if specifically requested by the Contracting Officer before execution of the contract, the Offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

K.16 52.227-15 REPRESENTATION OF LIMITED RIGHTS DATA AND RESTRICTED COMPUTER SOFTWARE. MAY 1999

(a) This solicitation sets forth the work to be performed if a contract award results, and the Government's known delivery requirements for data (as defined in FAR 27.401). Any

resulting contract may also provide the Government the option to order additional data under the Additional Data Requirements clause at 52.227-16 of the FAR, if included in the contract. Any data delivered under the resulting contract will be subject to the Rights in Data - General clause at 52.227-14 that is to be included in this contract. Under the latter clause, a Contractor may withhold from delivery data that qualify as limited rights data or restricted computer software, and deliver form, fit, and function data in lieu thereof. The latter clause also may be used with its Alternates II and/or III to obtain delivery of limited rights data or restricted computer software, marked with limited rights or restricted rights notices, as appropriate. In addition, use of Alternate V with this latter clause provides the Government the right to inspect such data at the Contractor's facility.

(b) As an aid in determining the Government's need to include Alternate II or Alternate III in the clause at 52.227-14, Rights in Data - General, the Offeror shall complete paragraph (c) of this provision to either state that none of the data qualify as limited rights data or restricted computer software, or identify, to the extent feasible, which of the data qualifies as limited rights data or restricted computer software. Any identification of limited rights data or restricted computer software in the Offeror's response is not determinative of the status of such data should a contract be awarded to the Offeror.

(c) The Offeror has reviewed the requirements for the delivery of data or software and states [Offeror check appropriate block] -

[] None of the data proposed for fulfilling such requirements qualifies as limited rights data or restricted computer software.

[] Data proposed for fulfilling such requirements qualify as limited rights data or restricted computer software and are identified as follows:

Note: "Limited rights data" and "Restricted computer software" are defined in the contract clause entitled "Rights in Data - General."

K.17 52.230-1 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION. JUN 2000

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the Offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c) (5) or 9903.201-2(c) (6), respectively.

I. Disclosure Statement - Cost Accounting Practices and Certification

(a) Any contract in excess of \$500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except

for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any Offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the Offeror's proposal under this solicitation unless the Offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the Offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

Caution: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

☐ (1) Certificate of Concurrent Submission of Disclosure Statement. The Offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows:

(i) Original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable; and

(ii) One copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: [Name and Address of Cognizant ACO or Federal Official Where Filed:]

The Offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

☐ (2) Certificate of Previously Submitted Disclosure Statement. The Offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: []

Name and Address of Cognizant ACO or Federal Official Where Filed: []

The Offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

☐ (3) Certificate of Monetary Exemption. The Offeror hereby certifies that the Offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling \$50 million or more in the cost accounting period immediately preceding the period in which this proposal was submitted. The Offeror further certifies that if such status changes before an award resulting from this proposal, the Offeror will advise the Contracting Officer immediately.

☐ (4) Certificate of Interim Exemption. The Offeror hereby certifies that (i) the Offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR 9903.202-1, the Offeror is not yet required to submit a Disclosure Statement. The Offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the Offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c) (1) or (c) (2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

Caution: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of \$50 million or more in the current cost accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. Cost Accounting Standards - Eligibility for Modified Contract Coverage

If the Offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the Offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

☐ The Offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the Offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the Offeror received less than \$50 million in awards of CAS-covered prime contracts and subcontracts. The Offeror further certifies that if such status changes before an award resulting from this proposal, the Offeror will advise the Contracting Officer immediately.

Caution: An Offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of \$50 million or more or if, during its current cost accounting period, the Offeror has been awarded a single CAS-covered prime contract or subcontract of \$50 million or more.

III. Additional Cost Accounting Standards Applicable to Existing Contracts

The Offeror shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a) (3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

☐ yes ☐ no

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS OR QUOTERS**L.1 FAR 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE. FEB 1998**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The Offeror is cautioned that the listed provisions may include blocks that must be completed by the Offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the Offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/> - Federal Acquisition Regulation

<http://www.dot.gov/ost/m60/tamtar/tar.htm> - Transportation Acquisition Regulation

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER. JUN 1999
 52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE. APR 1991
 52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY. APR 1991
 52.215-1 INSTRUCTIONS TO OFFERORS - COMPETITIVE ACQUISITION. MAY 2001
 52.215-15 PENSION ADJUSTMENTS AND ASSET REVERSIONS. DEC 1998
 52.215-16 FACILITIES CAPITAL COST OF MONEY. OCT 1997
 52.216-27 SINGLE OR MULTIPLE AWARDS. OCT 1995
 52.222-46 EVALUATION OF COMPENSATION FOR PROFESSIONAL EMPLOYEES. FEB 1993
 52.237-10 IDENTIFICATION OF UNCOMPENSATED OVERTIME. OCT 1997

II. TRANSPORTATION ACQUISITION REGULATION (48 CFR CHAPTER 12)

1252.209-70 DISCLOSURE OF CONFLICTS OF INTEREST. OCT 1994

L.2 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA. OCT 1997 ALTERNATE IV. OCT 1997*(a) Exceptions from cost or pricing data.*

(1) In lieu of submitting cost or pricing data, Offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) *Identification of the law or regulation establishing the price offered.* If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) *Commercial item exception.* For a commercial item exception, the Offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include -

(A) For catalog items, a copy of or identification of the catalog and its date, or the

appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities;

(B) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market;

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The Offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the Offeror's determination of the prices to be offered in the catalog or marketplace.

(b) *Requirements for cost or pricing data.* If the Offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The Offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

(2) As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the Offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

Alternate IV (Oct 1997).

(a) Submission of cost or pricing data is not required.

(b) Provide information described below: See L.7, COST AND BUSINESS PROPOSAL, for the information and format that are required.

L.3 FAR 52.216-1 TYPE OF CONTRACT. APR 1984

The Government contemplates award of an Indefinite Delivery/Indefinite Quantity contract with Cost-Plus Fixed Fee provisions resulting from this solicitation.

L.4 FAR 52.233-2 SERVICE OF PROTEST. AUG 1996

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

U.S. Department of Transportation
 RSPA/Volpe National Transportation Systems Center
 Attn: Donna M. Brickley, Contracting Officer, DTS-853
 55 Broadway
 Cambridge, MA 02142-1093

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

L.5 GENERAL INFORMATION.**L.5.A. PROPOSAL IDENTIFICATION.**

For ease of reference, an Offeror's submissions covering factors other than cost, i.e., Past Performance, Staffing, and Response to Hypothetical Tasks, will be referred to in this RFP as the "Technical Proposal."

L.5.B. AWARD WITHOUT DISCUSSIONS.

The Government intends to evaluate proposals and award contracts based on the initial offer (FAR 52.215-1(f)(4)). It is particularly important that each Offeror be fully responsive in providing its best offer initially since there may be no opportunity to revise proposals at a later date.

Offerors' initial proposals shall be reviewed to determine whether they satisfy the formal requirements of the solicitation. Those proposals determined by the Government to be so grossly and obviously deficient as to be totally unacceptable on their face may be eliminated from further consideration before the initial evaluation.

Failure of Offerors to respond or follow the instructions regarding the organization and content of the proposal volumes may result in the entire offer being eliminated before initial evaluation.

An incomplete or deficient cost and price proposal will impede the Contracting Officer from performing a cost analysis to determine probable cost to the Government and reasonableness of proposed costs. If an Offeror's initial cost proposal is so grossly deficient or ambiguous that a cost analysis cannot be performed, or proposed costs are not supported or do not track to the supporting data required by the cost exhibits, that Offeror's cost proposal may be deemed unrealistic and the entire offer may be excluded from evaluation.

Note: Award Exclusion - Contractors may not act as both a prime contractor and a subcontractor under the contracts to be awarded under this solicitation. Proposals involving such teaming arrangements will be eliminated from consideration.

L.5.C. CONSISTENCY BETWEEN TECHNICAL AND COST AND BUSINESS PROPOSALS.

Offerors are required to demonstrate consistency between the labor as included in the Cost and Business Proposal and the labor as evaluated in the Technical Proposal.

The labor rates proposed for each labor category shall be based upon the actual individual rate or, if supported by the Offeror or its proposed subcontractor's accounting system and approved by the cognizant Government agency, the company category rate of the individual for which a resume has been submitted. It is not acceptable to submit a lower labor rate based on the assumption that other individuals from the company can meet the labor qualifications standards of this solicitation. If the Offeror or one of its subcontractors wishes to be evaluated at a lower cost, it must submit a resume from a lower-paid employee. In the case of multiple resumes from the same company, any imbalance in the weighting of the proposed involvement of any individual must be justified.

The labor rates shown on Schedule 3, Summary of Proposed Labor Cost, and used to price the labor cost must be the same as the labor rates for persons whose resumes are submitted. Schedule 4, Labor Cost Realism Information, is a comparison of the category rates from Schedule 3 to the hourly rates for persons whose resumes were submitted. If the Government finds an inconsistency, it might adjust the evaluated cost, or eliminate the Offeror from consideration for failure to follow solicitation instructions.

L.5.D. INQUIRIES.

Any inquiries or correspondence pertaining to the Request for Proposal must be received not later than 14 calendar days after date of issuance of this RFP. Address all written inquiries to:

U.S Department of Transportation
RSPA/Volpe National Transportation Systems Center
Attn: Teresa Lee-Fierstein, Contract Specialist, DTS-853
Reference: DTRS57-03-R-20008
55 Broadway
Cambridge, MA 02142

The envelope must be addressed as stated above identifying solicitation number and the mail code. Questions may also be submitted by e-mail to LeeFierste@volpe.dot.gov or by facsimile to (617) 494-3024. Any questions received after this date will be answered only if determined by the Contracting Officer to be in the best interest of the Government. NO ORAL INQUIRIES WILL BE ANSWERED. No question of any nature or form can be directed to technical personnel. Any additions, deletions or changes to this procurement will be made by amendment to the RFP. Each amendment will be identified by number, and receipt thereof will be acknowledged by each Offeror. Consistent with the dissemination of the Request for Proposal, any amendment will be posted on the Volpe Center Acquisition Management Division internet home page <http://www.volpe.dot.gov/procure/index.html> and no paper copies will be mailed to prospective Offerors.

L.5.E. COST AND BUSINESS PROPOSAL REVIEW. The Government may at its sole discretion arrange for a Contractor to assist in the review of cost and business proposals. The Contractor reviewing proposals and supporting documentation are required to: safeguard all proprietary data; complete non-disclosure statements; and complete conflict of interest statements.

L.5.F. PROPOSAL SUBMISSION.

1. Mailing and Addressing Instructions. To facilitate proper handling, the outermost envelope/packaging, which contains the offer, must be addressed to Teresa Lee-Fierstein, DTS-853, to the address shown in the "Issued by" Block on page 1 of this solicitation. Packages must be clearly labeled "PROPOSAL DATA, TO BE OPENED BY ADDRESSEE ONLY", and must include the solicitation number DTRS57-03-R-20008.

2. The Offeror's proposal must be prepared in two (2) separate volumes entitled, respectively, "Technical Proposal" and "Cost and business Proposal". Each volume of the proposal should be complete in itself so that evaluation of both parts may be accomplished concurrently and evaluation of the technical proposal may be made strictly on the basis of technical merit.

3. The number of copies of proposals to be submitted is six (6) for the technical proposal and four (4) for the cost proposal. The cost proposal must also be submitted on a 3 ½ inch floppy disk or compact disc in a virus-free format compatible with Microsoft Excel version 2000.

4. The attached Standard Form 33 and all representations, certifications, and acknowledgments contained in Section K must be completed and signed by an authorized official of the Offeror's organization and be attached to the cost and business proposal.

L.5.G. PAGE LIMITS. The maximum number of pages that may be submitted for the technical and cost and business proposals are as follows:

Volume I - Technical Proposal: See Paragraph L.6.

Volume II - Cost and Business Proposal: No Limit.

L.5.H. TEXT. The text of the proposal shall be formatted on 8 1/2 by 11 inch paper with printing on one side only. Pages shall also be consecutively numbered. Type size shall be 11 point proportional, averaging not more than 14 characters per inch (reduction is not permitted). Exceptions to these restrictions are fold-out pages to 11 x 17 inches used for diagrams, charts, or graphic material. The text will be single spaced with one-inch minimum margins, Top, Bottom, Left and Right.

L.5.I. BINDING, COVER. The volumes must be loose leaf and in binders which can be easily opened and closed. The binder cover will not count against the page limitation of the proposal of each volume.

L.5.J. BINDER SPINE LABELS. All binders containing proposal material shall have spine labels containing the following information:

Solicitation No. DTRS57-03-R-20008

Volume Type (Technical Proposal or Cost and business Proposal) and Copy Number

Offeror Identifier: place the word, "Offeror:" with a blank space, for Government

marking purposes. DO NOT include ANY Offeror identification on the spine of the binder.

L.6 TECHNICAL PROPOSAL.

L.6.A. INTRODUCTION. Proposals must be structured in accordance with the instructions contained herein.

1. Organization and Appearance.

The Offeror's technical proposal should be comprehensive and explicit. Elaboration of general corporate or company experience in non-related activities will detract from the quality of the proposal. All qualifications, experience, and capability should relate to the services required by the Statement of Work. Legibility, conciseness, completeness, clarity of content, coherence, and brevity are important since they will facilitate the Government's evaluation procedure, and will also assure maximum credit being properly assigned to the various aspects of the proposal.

2. Page Limits. The maximum number of pages that may be submitted is as follows:

a. Past Performance: The total overall page limit for the summaries of the Offeror's five most relevant contracts is 15. There is no limit for the list of other current contracts required, for past performance reports, or for any information submitted by the Offeror to demonstrate that it has made its best efforts to ensure that customers provide past performance reports to the Volpe Center.

b. Staffing: Resumes are subject to an overall page limitation of 102 pages. No more than 34 resumes can be submitted.

c. Response to Hypothetical Tasks: The written material for each hypothetical task, including a matrix detailing the participation of each firm and individual proposed to be utilized, shall not exceed 8 pages.

L.6.B. PROPOSAL CONTENT.

The Offeror's technical proposal shall consist of three parts as follows:

L.6.B.1 PART 1 - PAST PERFORMANCE.

Offerors shall submit past performance information for both the Offeror and major (over 20% of the hours in the cost proposal) proposed subcontractors. Offerors shall submit this past performance data as a separate part of their proposal, which is clearly marked and identifiable.

Each Offeror will be evaluated on its performance under existing and prior contracts for similar products or services. Performance information will be used both for responsibility determinations and as an evaluation factor. The Government may contact references other than those provided by the Contractor and the information received will be used in the evaluation of the Offeror's past performance.

The Offeror must provide a list of contracts that it is currently performing or has completed within the past three years. The Offeror must make a good faith effort to insure that the list includes all prime contracts with a value over \$500,000 with the Federal Government. If the Offeror can demonstrate that including information on all prime contracts with the Federal Government over \$500,000 would create an undue burden on the Offeror because of the large number of applicable contracts, then the list may be reduced to reflect contracts that are most relevant and for which data is readily available. The Offeror must describe in its proposal what types of contracts were excluded, and what process was utilized to insure that all prime contracts with the Federal Government over \$500,000 relevant to the Statement of Work were included.

However, the list must include all contracts that are clearly relevant such as those applicable contracts reflecting the involvement of the proposed project manager or principal investigators. If performance is evaluated for each Task Order under a contract, the list may be modified accordingly. The list may also include other contracts considered relevant by the Offeror including those with customers other than the Federal Government. Information regarding the Offeror's performance as a subcontractor with the Federal Government will be obtained from the prime Contractor. Include the following information for each contract:

- 1) Name and address of customer
- 2) Contract number
- 3) Contract type
- 4) Total contract value
- 5) Description of contract work
- 6) Contracting Officer address, voice and facsimile telephone numbers, and e-mail address
- 7) Contracting Officer's Technical Representative's address, voice and facsimile telephone numbers and e-mail address
- 8) Administrative Contracting Officer, if different from Contracting Officer, address, voice and facsimile telephone numbers and e-mail address
- 9) List of major subcontractors
- 10) Assessment of relevance to requirements identified in this solicitation.
- 11) Whether any final or interim contract past performance report was or has been issued by the contracting agency. Copies of the final or most current past performance report must be submitted for the five most relevant contracts. Copies of reports on other than the five contracts considered most relevant by the Offeror should not be submitted as part of the proposal, but will be obtained by the Government if the Government considers the contracts relevant.

From the above list, the Offeror must select no more than five contracts that it considers the most relevant in demonstrating its ability to perform the proposed effort described in Section C herein. This list of most relevant contracts must be separated from the above list. However, the list must include all contracts that are clearly relevant, such as those applicable contracts reflecting involvement of the proposed program manager and other proposed key personnel. The list may also include other contracts considered relevant by the Offeror, including those with customers other than the Federal Government. Offerors may also include information on problems encountered on the five identified contracts and the Offeror's corrective actions.

The Offeror is responsible for making all reasonable efforts to ensure that a completed evaluation report is provided for each of the five cited contracts no later than the due date for receipt of proposals. If the contracting activity has completed a Contractor evaluation report and provided a copy to the Offeror, particularly those completed in accordance with Subpart 42.15 of the FAR, a copy of this report is sufficient. If not, the Offeror is responsible for making all reasonable efforts to ensure that a copy of the performance evaluation report is provided directly to the Volpe Center Contract Specialist by the appropriate customer responding official no later than the due date for receipt of proposals. If the customer has not developed its own past performance evaluation report form, please refer that customer to the Contractor Performance Report format found at National Institutes of Health Contractor Performance System website at: <http://cps.od.nih.gov/files/standardreport.doc> .

This format, including the associated numeric ratings and criteria, should be used to submit the required past performance information for the proposal. Information contained in the evaluation reports shall be considered sensitive and shall not be released to other Offerors. Failure of the Offeror to demonstrate that it has made all reasonable efforts to provide the required past performance reports will result in an unacceptable

rating for this criterion. The Government reserves the right to obtain additional information from any of the referenced contract contacts and from other Government sources. If the Government receives negative past performance information (indicating that performance was less than satisfactory) which is not accompanied by a response from the Offeror, a copy of the adverse information will be provided to the Offeror, which will be given a limited period in which to provide a response. If no response is received within the specified timeframe, the negative past performance information will be evaluated as submitted.

Offerors must send a Client Authorization Letter, included as Exhibit A, to all non-Federal Government references listed in their proposal to assist in the timely processing of past performance evaluations. Client Authorization Letters must be mailed to individual references no later than the proposal submission date. The Offeror shall include a copy of all completed Client Authorization Letters as part of the Past Performance submission.

If the Offeror has no relevant past performance history, it must affirmatively so state. Offerors with no relevant past performance history or Offerors that are unable to provide past performance reports after making all reasonable efforts will not be evaluated favorably or unfavorably under this criteria, in accordance with FAR 15.305.

In the case of a relatively new firm (i.e., established within the last 18 months), the Offeror may submit past performance information for contracts on which its corporate management has performed, to supplement any past performance information for the firm itself; this shall be specifically noted in the proposal submission.

If the Offeror does not either include past performance history or affirmatively state that no past performance history exists or can be obtained, the Offeror's proposal will be ineligible for award.

The overall page limit for the list of the five most relevant contracts (including any information on the problems encountered on the contracts) is 15. This page limit does not apply to the list of other less relevant contracts required, or any information submitted by the Offeror to demonstrate that it has made its best efforts to ensure that customers provide past performance reports to the Government.

EXHIBIT A - CLIENT AUTHORIZATION LETTER.

[Company Name]
[Street Address]
[City, State/Province/Zip/Postal Code]
[Date]

[Recipient Name]
[Address]
[City, State/Province Zip/Postal Code]

Dear [Client]:

We are currently responding to the Volpe Center RFP No. DTRS57-03-R-20008 for the procurement of Rail Crashworthiness Research Support Services. The Volpe Center is placing increased emphasis in their acquisitions on past performance as a source selection evaluation factor. The Volpe Center requires Offerors to inform references identified in proposals that the Volpe Center may contact them about contract performance information.

If you are contacted by the Volpe Center for information on work we have performed under contract for your company/agency/state or local Government, you are hereby authorized to respond to Volpe Center inquiries.

Your cooperation is appreciated. Please direct any questions to
_____.
(Offeror's point of contact)

Sincerely,
[Your name]
[Your position]

[Typist's initials]
Enclosure: [Number]

cc: [Name]

L.6.B.2 PART 2 - STAFFING.

The Offerors shall provide the resumes described below, which demonstrate the qualifications of the Offeror's personnel proposed, in terms of technical expertise, experience, education and qualifications relevant to the functional area requirements of this contract. Resumes shall be submitted for those individuals proposed to perform in the Key Personnel labor categories as identified in paragraph I.1.

The resumes will be by name, the position currently held by that person, and his/her responsibilities, total years with the firm, and a brief description of experience, education and qualifications. Proposal assignments shall be keyed to personnel requirements as shown in the Statement of Work and should relate to proposed organizational structure. Also, in addition to applicable technical experience, resumes should reflect experience (if any) in managing and/or directing projects in a multi-task/multi-disciplinary/non-personal support services environment. Resumes should be provided for only those key personnel for whom the Offeror can make a firm commitment to this contract. Any uncertainties and/or part-time staff assignment should be clearly identified. Resumes must also be verifiable in that relevant dates, and names and addresses of educational institutions and employer must be provided for all experience, education, and specialized training claimed. The Government will incorporate key personnel in Section I of the resulting contract.

Offerors shall submit the number of resumes specified for the following key labor categories:

Key Labor Category	No. of Resumes
Program Manager	1
Senior Engineers, Applied Mechanics	2
Senior Engineers, Biomechanics	2
Senior Operations Research Analysts	2
Middle Engineers, Applied Mechanics	2
Middle Engineers, Biomechanics	2
Middle Operations Research Analysts	2
Staff Engineers, Applied Mechanics	2
Staff Engineers, Biomechanics	2
Staff Operations Research Analysts	2
Senior Technicians	2

L.6.B.3 PART 3 - RESPONSE TO HYPOTHETICAL TASKS 1, 2, and 3.

The Offeror shall describe a plan on how each task shall be accomplished, including technical approach, staffing, and management. The Offeror shall provide details relative to the roles, responsibilities, and level of involvement of the prime contractor, proposed subcontractors. The Offeror shall describe its approach to forming and managing teams. The Offeror shall also discuss the critical technical issues and state-of-the art in each functional area. (Note: The Offeror is not being asked to perform the work described, but rather how it would go about setting up the effort, both technically and managerially, and what would be the solution approach.)

L.6.B.4 HYPOTHETICAL TASKS.

L.6.B.4.A HYPOTHETICAL TASK 1.

Example Risk Analysis Statement of Work
 Passenger Rail Collision Safety Risk and Cost/Benefit Analyses

1. Introduction.

In support of the U.S. Department of Transportation Federal Railroad Administration (FRA), the Volpe Center has been conducting research on rail passenger equipment crashworthiness. The results of some of this research indicate that equipment that incorporates crush-zones at the ends of each of the cars (such equipment is also called crash-energy management equipment) is significantly more crashworthy than conventional rail equipment [1]. While potentially increasing crashworthiness, development and production of equipment incorporating crush-zones potentially costs more than development and production of conventional equipment.

The results of a previous risk study on the potential increase in collision safety and associated costs and benefits of equipment incorporating crush-zones [2] showed that such equipment was cost effective for inter-city passenger service, and commuter service on high-speed high-density corridors; such equipment was found to be marginally cost effective for conventional-speed commuter service mixed with freight service, and not cost-effective for dedicated commuter service. For the least cost effective case, dedicated multiple-unit commuter service, the benefit-to-cost ratio was found to be 86%.

In the intervening four years since the previous risk study, research has been conducted on the crashworthiness of conventional equipment, including full-scale testing [3, 4, 5], and on the development of rail passenger equipment incorporating crush-zones [6, 7]. The results of this research indicate that the crashworthiness performance of conventional equipment is worse than assumed in the previous risk study, and that the cost of design development and fabrication of equipment incorporating crush-zones is lower. There is a need to revise the previous risk study to determine if the potential benefit to equipment incorporating crush-zones is greater than previously concluded.

The purpose of this effort is to revise the input data for the risk analysis and to determine the influence on the potential improvement on collision safety of equipment incorporating crush-zones, and to revise the input data for the cost-benefit analysis to determine the influence on the benefit-to-cost ratios.

2. Objective.

The objectives of this effort are to evaluate the current collision safety of passenger rail operations in the United States, to evaluate the potential improvement in collision safety with the application of crash energy management-design equipment, and to evaluate if the potential benefits of crash energy management meet or exceed their potential costs.

3. Tasks.

3.1 TASK 1: MANAGEMENT PLAN.

The contractor shall develop a management plan that describes the approach and schedule to be used to complete the work described in Tasks 1 and 2, including subtasks. This plan shall include a milestone chart describing the schedule for initiating and completing each task, and the resources required to complete each task. The plan shall

include a description on any existing models and any existing databases which are to be used to perform the work required by this statement of work.

3.2 TASK 2: RISK ANALYSIS.

The contractor shall perform a risk analysis on inter-city and commuter passenger rail service.

Subtask 2.1: Develop Risk Model.

The contractor shall develop a risk model suitable for determining the risk to occupants of passenger train vehicles involved in accidents. Risk is defined as the product of accident likelihood and accident consequence, and consequences are casualties (fatalities and injuries). The model shall be capable of providing estimates of the expected number of annual accidents and their consequences as a function of annual exposure (activity) levels for combinations of the following six operating environments and four accident scenario categories. In a few cases, data limitations may require combining several of the possible combinations into a single submodel. The six railroad operating environments are:

1. High-speed inter-city passenger train service, with automatic train control (e.g., Amtrak's Acela)
2. Conventional-speed inter-city passenger train service, with automatic block signaling (e.g., Amtrak San Diego to Los Angeles)
3. Conventional-speed inter-city passenger train service, with central train control (e.g., Amtrak long-haul)
4. Commuter train push-pull service, with automatic block signaling (parts of Massachusetts Bay Transportation Authority [MBTA], New Jersey Transit [NJT], et al)
5. Commuter train push-pull service, with central train control (parts of MBTA, NJT, et al)
6. Commuter train multiple-unit service, with automatic block signaling (e.g., most of Southeastern Pennsylvania Transportation Authority [SEPTA], Long Island Rail Road [LIRR], and Northern Indiana Commuter Transportation District [NICTD])

The four accident scenario categories are:

1. Train-to-train collision
2. Grade-crossing collisions
3. Collisions with obstructions
4. Derailments.

To the extent feasible the model shall take into account the range of speeds, traffic densities and other factors that affect accident likelihood and consequences. Model outputs shall be reported both in absolute values and normalized by the number of passengers (trips), passenger miles, passenger train trips, and passenger train miles.

The model shall be capable of estimating risk for a base case scenario that uses only conventional vehicle designs, and for crash energy management (CEM) scenarios that assume replacement and fleet expansion acquisitions utilize improved CEM designs. The model shall account for the mix of conventional and improved CEM equipment over a transition period when both are in use, and shall cover a 40 year projection period to support required cost-benefit analyses. The growth scenario selected should reflect the varying trends for the six operating environments.

Subtask 2.2: Develop Risk Data.

The contractor shall develop the input data necessary to exercise the risk model developed in Subtask 2.1.

Subtask 2.2.1 Likelihood Data.

The contractor shall develop the data required to estimate the likelihood of an accident in each of the six passenger-train operating environments. As needed to exercise the risk model, this data shall include historical information on past accidents, traffic mix, traffic density, the signal system, grade crossings, as well as information on FRA track class, number of switches, route alignment, and other features of the railroad that influence the likelihood of an accident.

Subtask 2.2.2 Consequences Data.

The contractor shall develop the data required to estimate the consequences of accidents in each of the four scenarios described in Subtask 2.1. These data include fatalities and injuries as a function of speed for all four collision scenarios. For the train-to-train collision scenario, the size (weight) of the two trains, and the impacting vehicles shall also be considered. For the grade crossing collision and collision with an object, the size and strength of the highway vehicle shall also be considered. For a derailment, the influence of the wayside shall be considered. The contractor shall make use of research results on train crashworthiness, particularly the results of recent fullscale tests [3, 4, 5]. For conventional equipment, recent research results include estimates of injury and fatality for a cab car-to-locomotive train-to-train collision and for a grade crossing collision with a heavy object [1]. For crash energy management equipment, the contractor shall estimate consequences based on the results of simulation modeling [1, 8, 9]. In developing the benefits of trains with crash energy management, the contractor shall consider the reduction in casualties on conventional equipment in a train-to-train collision between a conventional train and a crash-energy management train. If necessary to fill in any gaps in the data, the contractor shall exercise one-dimensional train collision dynamics models [8, 9] and a one-degree-of-freedom occupant model [10]

Subtask 2.3: Evaluate Risk.

The contractor shall use the risk model and data to evaluate risks for conventional equipment used in the six railroad operating environments, i.e., a base case scenario. The contractor shall check that the aggregate risk for all six operating environments is consistent with the historical risk for the passenger train operation in the U.S. The contractor shall also evaluate the risk for crash-energy management equipment in the six operating environments, i.e., for a CEM scenario. The contractor shall compare risk for each of the six operating environments. The contractor shall note which operating environment crash energy management is most beneficial, and which environment crash energy management is least beneficial.

The contractor shall also use the model to assess and report the sensitivities of risk results to alternative assumptions regarding CEM effectiveness, rates of introduction of equipment with new CEM designs, growth in passenger rail activity, or other variables which either are subject to a high degree of uncertainty or might have a sizable impact on the overall results.

3.3 TASK 3: COST/BENEFIT ANALYSIS.

The contractor shall estimate the costs and benefits of implementing equipment with crash energy management in passenger rail service in the United States.

Subtask 3.1: Develop Cost/Benefit Model.

The contractor shall develop a model that reflects the costs and benefits of utilizing passenger rail equipment with improved crash energy management characteristics. The model shall be suitable for evaluating the costs and benefits in each of the six operating environments. The model shall be able to evaluate the influences of the period over which additional costs are amortized and the rate at which new equipment is introduced into the passenger rail fleet.

Subtask 3.2: Develop Cost/Benefit Data.

The contractor shall develop the input data necessary to exercise the cost/benefit model developed in Subtask 3.1.

Subtask 3.2.1: Cost Data.

The contractor shall develop estimates of the incremental cost required to engineer new coach car, cab car, and locomotive structural designs that incorporate improved crash energy management characteristics. The contractor shall use the costs of existing and previous research contracts for the development of improved-crashworthiness equipment designs, including development of a coach car design incorporating crush-zones [11] and improved cab car crashworthiness end structure design [12]. Estimates of these engineering costs should be made for two cases that assume each of the major suppliers of rail passenger equipment develops either one or two principal crash-energy management structural designs.

The contractor shall also develop estimates of the incremental costs (or cost savings) required to fabricate, operate and maintain coach car, cab car, and locomotive structures incorporating crash energy management characteristics. The contractor shall use existing and previous research contracts for the fabrication of improved-crashworthiness equipment designs, including fabrication of structural elements of a coach car design incorporating crush-zones [11] and structural elements of an improved cab car crashworthiness end structure design [12] as a basis for estimating these incremental costs.

The contractor shall also use any other relevant data he can obtain to develop defensible estimates of the incremental cost of designing, fabricating, operating and maintaining rail passenger equipment structures that incorporate crush zones.

Subtask 3.2.2: Benefit Data.

The contractor shall estimate the incremental monetary benefits of crash energy management for each of the six operating environments. These estimates shall be based on the reduction in injuries and fatalities predicted with the risk analysis in each of the operating environments. The contractor shall use the information in reference [13] and other Department of Transportation (DOT) guidance for the monetary values of fatality and injury.

The contractor shall also contact a sample of passenger rail operators to obtain their estimates of direct cost impacts of all passenger rail fatalities and the subset of rail passenger injuries due to train accidents. Information collected from operators shall be reported on a per fatality and per injury basis, and compared with DOT cost estimates and, if appropriate, used to develop an alternative measure of CEM benefits that reflect operators' perspectives.

Subtask 3.3: Evaluate Costs and Benefits.

The contractor shall estimate and report the cost-to-benefit (CB) ratios for implementing crash-energy management equipment in each of the six operating environments using the Office of Management and Budget (OMB) mandated 7% discount rate for government decisions, making use of the models, data, and results developed in parts of Task 2, Risk Analysis, and Task 3, Cost/Benefit Analysis. Summary results shall be reported for the intercity railroad industry, for the commuter railroad industry and for the entire passenger railroad industry. As part of the CB analysis, the increased CEM acquisition costs (developed in Subtask 2.1, Develop Risk Model) shall be amortized over the projected levels of vehicle production for 25, 30, 35, and 40 years, and reported for each operating environment on a per vehicle, per seat and per seat mile basis for coach cars, cab cars, and locomotives. CEM incremental operating costs (or cost savings) shall be similarly reported. CB results shall be reported for several cases that reflect the range of estimates for risk scenarios and results reported under Subtask 2.3, Evaluate Risk.

The contractor shall also develop CB estimates that align more closely to industry perspectives in areas such as amortization assumptions and costs associated with fatalities and injuries.

3.4 Task Deliveries Or Performance. Any software developed to perform the tasks and develop the information used to complete the study required by this statement of work is a deliverable. Such software includes input data files developed for applications programs such as ABAQUS, MADYMO, and DYNA3D, computer-language (e.g. FORTRAN and C) extensions to such applications, and stand-alone computer-language applications. The software so developed shall not require any additional proprietary software (i.e., in-house compilers, interpreters, or applications software) in order to execute and be employed as an analysis tool. Sufficient software shall be delivered to the Government at the end of this task so that if it so chooses, it can re-create the analyses done by the Contractor to accomplish the study described in this hypothetical task. Commercially available software, which can be freely purchased by the Government and any other public or private entity, may be used to develop such software. Copies of any software, including source code and data files, developed under this task shall be delivered to the Government at the end of this task. The Government will own and may distribute such software freely without restriction.

3.5 References. Referenced material provides insight into the current state of the specific research related to the ongoing rail crashworthiness program. Reference material is available in CD format, and will be mailed upon request via e-mail.

- [1] Tyrell, D., Perlman, A.B., "Evaluation of Rail Passenger Equipment Crashworthiness Strategies," Draft Paper.
- [2] Bing, A., "Passenger Rail Risk and Cost/Benefit Assessment," Presentation Material, FRA/FTA/APTA Mini-Symposium, Pueblo, Colorado, December 3, 1998.
- [3] Tyrell, D., Severson, K., Perlman, A.B., March, 2000, "Single Passenger Rail Car Impact Test Volume I: Overview and Selected Results," US Department of Transportation, DOT/FRA/ORD-00/02.1.
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- [5] Tyrell, D., Severson, K., Perlman, A.B., Rancatore, R., "Train-to-Train Impact Test: Analysis of Structural Measurements," American Society of Mechanical Engineers, Paper No. IMECE2002-33247, November 2002.
- [6] Mayville, R.A., Stringfellow, R.G., Rancatore, 1999, "Development of a Passenger

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 - [12] Martinez, E., Tyrell, D., Zolock, J., "Rail-Car Impact Tests with Steel Coil: Car Crush," American Society of Mechanical Engineers, April 2003.
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L.6.B.4.B HYPOTHETICAL TASK 2.

Example Structural Crashworthiness Statement of Work
 Rail Passenger Cab Car Crush-Zone Engineering Model
 Design Development and Testing

1. Introduction.

The Volpe Center has been supporting the Federal Railroad Administration (FRA) in conducting rail equipment crashworthiness research. The approach taken by the Volpe Center in conducting this research has been to propose strategies for improved crashworthiness and to apply analytic tools and testing techniques for evaluating the effectiveness of those strategies. The information from this research has been used to develop the crashworthiness requirements for Amtrak's high-speed trainset, to develop initial safety regulations for passenger equipment, and to develop draft regulations for locomotives.

As part of this research, the Volpe Center has investigated crash energy management - the inclusion of sacrificial crush zones at the ends of the cars - as a strategy for improved occupant survivability during a collision. The results of this research have shown there are significant potential benefits to crash energy management [1, 2, 3, 4, 5], particularly in in-line train-to-train collisions with closing speeds above 50 mph, and that such an approach can be feasibly implemented [6, 7].

A series of full-scale impact tests are currently being conducted on rail passenger vehicles [8, 9, 10, 11, 12, 13]. These tests are intended to measure the crashworthiness performance of existing design equipment and to measure the performance of equipment incorporating crash energy management. The full-scale tests necessary to measure the crashworthiness of existing design equipment have been completed.

A coach car crush-zone design has been developed and example components of this crush zone have been tested. Planning is underway to perform single-car and two-car tests on coach cars incorporating crush-zones, and it is expected that these tests will take place in the spring of 2003. A train-to-train test of crash energy management is also being planned. In order to perform this test, a cab car with a crush zone is required. Since the cab car is the impacted car and the operator must be protected, in addition to the passengers, the crush-zone design in the cab car must fulfill more design requirements than the coach car.

The purpose of this task is to develop the cab car end structure design to be implemented in the cars tested during the full-scale tests of rail passenger equipment incorporating crushable end structures. This effort is intended to build upon the results of the coach car crush zone development [7] and the effective anti-climber study [14].

2. Objective.

The objective of this effort is an engineering model design of a passenger cab car end structure that will crush in a controlled manner during an impact. The end structure shall include a coupling system that allows the ends of coupled cars to meet before lateral buckling or override occurs, and shall also incorporate structural elements that absorb collision energy. The end structure design shall be able to absorb 2.5 million foot-pounds of energy for three feet of crush. This cab car end structure shall be designed as a retrofit to an existing cab car design and shall meet all current APTA crashworthiness standards and FRA crashworthiness regulations.

3. Scope. The scope of this effort includes research into strategies for controlled collapse of coupling systems and crushable structure designs, testing of the coupling

system and elements of the crushable structure, and development of an integrated crash energy management end structure design.

4. Tasks.

4.1 TASK 1: MANAGEMENT PLAN.

The contractor shall develop a management plan that describes the approach and the schedule to be used to complete the work required in Tasks 2 through 7. This plan shall include a milestone chart describing the schedule for initiating and completing each of the tasks, and the resources required to complete each task. The management plan shall meet the approval of the TOCOTR before the contractor proceeds to the next task.

4.2 TASK 2: DESIGN REQUIREMENTS.

The contractor shall develop the design requirements for a coupling system, an anti-climber arrangement, and crushable end structure. These requirements shall include the service-related structural requirements in addition to the collision requirements. These design requirements shall provide for integration of the design into an existing carbody design, i.e., it shall be possible to take an existing single-level passenger car, remove the end structure ahead of the body bolster, and construct an end structure built to the design developed as part of this effort. A car equipped with the coupling system built to the design developed under this effort shall be able to couple with a conventional passenger car. These design requirements shall also provide that the end structure design shall be able to absorb at least 2.5 million foot-pounds of energy for no more than three feet of crush. The contractor shall review and update as appropriate the design requirements for the coupler system, anti-climbing arrangement, and crushable end structures developed as part of previous efforts [7,14]. As part of the effort to update the design requirements, the contractor shall research recent results on foreign studies of crash energy management. The design requirements shall include current APTA crashworthiness standards and current FRA crashworthiness regulations. The design requirements shall also include requirements for anti-climber performance and for protection of the operator.

4.3 TASK 3: REVIEW STRATEGIES.

The contractor shall review strategies for designing coupling systems, crushable end structures, and anti-climbers. The contractor shall review foreign and US rail passenger equipment designs incorporating crash-energy management, including Amtrak's Acela trainset. (The results of a previously conducted reviews are presented in references [6, 14].)

4.4 TASK 4: PRELIMINARY DESIGN DEVELOPMENT AND ANALYSIS.

Using the results of Task 2 and Task 3, the contractor shall develop a preliminary design. The contractor shall analyze the effectiveness of the design in meeting the design requirements.

4.4.1 Subtask 4.1: Crush Analyses.

The contractor's analysis shall include the collapse behavior of the coupler system, the crush behavior of elements of the end structure, the crush behavior of the anti-climber, and the behavior of the entire end structure. The force/crush characteristics of the coupler system, the structural elements including the anti-climber arrangement, and the integrated end structure shall be developed as part of the analysis.

4.4.2 Subtask 4.2: Collision Dynamics Analysis.

The contractor shall analyze the response of a train made up of a double-ended cab car incorporating the preliminary end structure design, three coach cars incorporating the previously developed coach car end structure design [7], and a conventional locomotive. The response of this consist shall be evaluated under the train-to-train test conditions [12], i.e., in a collision with a standing locomotive-led conventional train weighing 635 kips at a closing speed of 30 mph. This analysis shall be sufficiently detailed to determine if override will occur between the colliding locomotive and cab car, if override will occur between any of the coupled cars, if lateral buckling of the trainset will occur, what the distribution of crush among all the cars and locomotives, and the longitudinal, lateral, and vertical trajectories (accelerations, velocities, and displacements) of all the cars and locomotives.

4.5 TASK 5: BUILD AND TEST ELEMENTS.

The contractor shall build and dynamically test at least four different element designs from the integrated end structure design: one element from the coupler system, one element from the anti-climber arrangement and two elements from the structure. The principal objective of these tests shall be to measure the force/crush characteristics of the coupler system and structural elements. As appropriate, the contractor shall also measure the modes of crush, strains, displacements, and accelerations.

4.5.1 Subtask 5.1: Test Requirements.

For each of the element designs, the contractor shall develop a test requirements document. The test requirements documents shall include descriptions of the elements to be tested, including any required modifications for any test fixtures, descriptions of any required fixtures, the conditions under which the test will be conducted, and the critical information to be measured. The test requirements documents shall be reviewed and approved by the TOCOTR prior to constructing the corresponding element.

4.5.2 Subtask 5.2: Build Elements.

The contractor shall develop design drawings and the ancillary information necessary to construct prototypes of the structural elements to be tested. For each of the element designs, the contractor shall build at least one example element to be tested. The coupler system and the structural elements shall be built to the drawings developed in Task 4, and shall include any modifications required by the test fixtures developed in Subtask 5.1. The contractor shall document the processes used to manufacture each element.

4.5.3 Subtask 5.3: Test Implementation Plans.

The contractor shall develop a test implementation plan for each component to be tested. The test implementation plan shall describe how the test will be conducted, including description of the test fixtures, instrumentation and data acquisition system. The test implementation plan shall be reviewed by the TOCOTR prior to each test. A test shall not be conducted until the TOCOTR has approved the corresponding test implementation plan.

4.5.4 Subtask 5.4: Perform Tests.

The contractor shall destructively test each of the elements constructed in Subtask 5.2 according to the requirements developed in Subtask 5.1 and implementation plans developed in Subtask 5.3. At a minimum, the force time history and displacement time history shall be measured. Sufficient data shall be gathered to determine the peak force and average

force. The contractor shall take photographs of the element prior and subsequent to the test. As appropriate, the contractor shall also measure the modes of crush, strains, displacements, and accelerations. The contractor shall document the test and test measurements, including filming the tests with high-speed movie cameras.

4.6 TASK 6: COMPARISON OF TEST RESULTS AND PRELIMINARY DESIGN ANALYSES RESULTS.

The contractor shall compare the results of the analyses conducted as part of Task 4 with the test results from Subtask 5.4. The contractor shall compare the force/crush characteristic predicted prior to the tests to those measured during the tests for the coupler system and each structural element. This comparison shall include the average force, the peak force, the force time history and the displacement time history. As appropriate, the contractor shall also compare modes of crush, strains, displacements, and accelerations measured during the tests with those predicted prior to the test.

4.6.1 Subtask 6.1: Model Refinement.

If significant discrepancies between the analyses predictions and the test measurements are found as a result of Task 6, the contractor shall modify the models and analyses techniques. If discrepancies are due to model features (either inappropriate parameters or characteristics of the system not included in the model), these model features shall be appropriately modified to obtain agreement between the test data and model predictions. The revised model shall be used to evaluate the behavior of the revised design.

4.7 TASK 7: FINAL DESIGN.

If the results of subtask 5.4 indicate that the design requirements were not met, then the contractor shall modify the design to improve its performance. The revised models and analyses techniques developed in Subtask 6.1 shall be used to evaluate the behavior of the revised design. As necessary, the contractor shall revise the blueprints and the ancillary information necessary to construct prototypes of the coupler system and the elements of the end structure developed in Task 4. The contractor shall develop the drawings and ancillary information required to build the cab car end structure and modify an existing rail passenger coach car to include crushable end structures of the design developed.

4.8. TASK 8: CAB CAR END CRUSH ZONE CONSTRUCTION AND INSTALLATION SUPPORT

4.8.1 Subtask 8.1: Construct End Structures.

The contractor shall construct two cab car crush-zones. These crush-zones shall be constructed according the drawings, materials requirements, fabrication and construction methods developed as part of the base.

4.8.2 Subtask 8.2: Quality Control.

The contractor shall take the appropriate steps necessary to assure that the crush-zones are fully compliant with the design drawings, specified materials, and rail industry standard construction methods. The contractor shall assure that all parts are dimensionally accurate within tolerances stated on the design drawings. The contractor shall assure that all welding is compliant with appropriate American Welding Society standards.

4.8.3 Subtask 8.3: Shipment.

The contractor shall ship both crush-zones from the fabrication facility to the Transportation Technology Center, Inc. (TTCI) in Pueblo Colorado. The contractor shall appropriately package the end structures for the method of shipment chosen, to minimize the potential for damage during shipment.

4.9 TASK 9: INSTALLATION SUPPORT.

The contractor shall assist the TTCI, in installing the cab car crush-zones in the car to be used in the train-to-train test. This support shall include any assistance required in designing fixtures or jigs, and any assistance required in developing appropriate construction methodology. The contractor shall work with TTCI to resolve any issues related to fitment of the end structures in the cab cars.

4.10 TASK 10: QUASI-STATIC TEST SUPPORT.

Quasi-static load tests are to be performed by TTCI. The results of these tests include measurements of strains in selected parts of the structure for four prescribed loading conditions. The contractor shall assist in determining the placement of strain gages on the cab car end structures for the four prescribed loading conditions. As appropriate for comparison with design calculations, the contractor shall also recommend other measurements and instrumentation, such as displacement measurements and frangible paint. The contractor shall assist in the post-test inspections of the cab car end structures, to assure that no permanent deformation of the end structures has occurred.

4.11 TASK 11: COMPARISON OF QUASI-STATIC TEST MEASUREMENTS AND DESIGN ANALYSIS PREDICTIONS.

The contractor shall compare the quasi-static test measurements with design analysis results. These comparisons shall include the strains, as well as displacements and other measurements as appropriate.

5. TASK DELIVERIES OR PERFORMANCE.

Any software developed to perform the tasks and develop the information used to complete the study required by this statement of work is a deliverable. Such software includes input data files developed for applications programs such as ABAQUS, MADYMO, and DYNA3D, computer-language (e.g. FORTRAN and C) extensions to such applications, and stand-alone computer-language applications. The software so developed shall not require any additional proprietary software (i.e., in-house compilers, interpreters, or applications software) in order to execute and be employed as an analysis tool. Sufficient software shall be delivered to the Government at the end of this task so that if it so chooses, it can re-create the analyses done by the Contractor to accomplish the study described in this hypothetical task. Commercially available software, which can be freely purchased by the Government and any other public or private entity, may be used to develop such software. Copies of any software, including source code and data files, developed under this task shall be delivered to the Government at the end of this task. The Government will own and may distribute such software freely without restriction.

6. References. Referenced material provides insight into the current state of the specific research related to the ongoing rail crashworthiness program. Reference material is available in CD format, and will be mailed upon request via e-mail.

- [1] Tyrell, D.C., Severson, K.J., Marquis, B.J., 1995, "Analysis of Occupant Protection Strategies in Train Collisions," ASME International Mechanical Engineering Congress and Exposition, AMD-Vol. 210, BED-Vol. 30, pp. 539-557.
- [2] Tyrell, D.C., Severson, K.J., Marquis, B.J., 1995, "Train Crashworthiness Design for Occupant Survivability," ASME International Mechanical Engineering Congress and Exposition, AMD-Vol. 210, BED-Vol. 30, pp. 59-74.
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- [10] Tyrell, D., K. Severson, A.B. Perlman, "Passenger Rail Two-Car Impact Test Volume I: Overview and Selected Results," U.S. Department of Transportation, DOT/FRA/ORD-01/22.I, January 2002.
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L.6.B.4.C HYPOTHETICAL TASK 3.

Example Occupant Protection Statement of Work
 Rail Passenger Train Occupant Response Under Collision Conditions

1. Introduction. In support of the Federal Railroad Administration's (FRA) Office of Research and Development, the Volpe Center has been conducting research into rail equipment crashworthiness. The approach taken by the Volpe Center in conducting this research has been to propose strategies for improved vehicle crashworthiness and occupant protection and to apply analytic tools and testing techniques for evaluating the effectiveness of those strategies.

Until recently, modeling and testing of occupant interactions with the interior of cars during train collisions has been limited to primarily the single dimensional longitudinal motion. These initial analytical studies have resulted in idealized passenger rail car deceleration time-history (crash-pulse) during a collision. The idealized crash pulse is a 250-msec triangular pulse with a peak of 8-Gs at 125-msec. This crash-pulse was derived for the first coach car in a head on locomotive-led train-to-locomotive-led train collision with a closing speed of 70-mph.

As part of the development of regulations and standards for passenger seating, a series of longitudinal sled tests were conducted on representative commuter seats with various size anthropomorphic test devices (ATD's). Results were intended to provide a better understanding of how traditional rail passenger seating behaves in a crash environment in terms of both seat structure and occupant response. Prior to testing, each seat was modeled. After seat testing, comparisons were made between sled test data and the values predicted by the modeling. In general, seat/occupant models correlate closely with testing results [1, 2].

Currently the Volpe Center has been supporting the FRA in conducting full-scale collision testing of passenger cars to measure the performance of existing equipment design in in-line train-to-train collisions. The first full-scale test, a single passenger car impact into a fixed wall, was conducted at the Transportation Test Center, Pueblo, Colorado on November 16, 1999. The second full-scale test, a two-coupled car impact into a fixed barrier at 26-mph, was conducted on April 4, 2000, and the third full-scale test, an impact between two trains, was conducted on January 31, 2002. As part of the tests, the cars were instrumented to measure the deformations of critical structural elements; vertical, lateral and longitudinal deceleration of the carbody and trucks; and suspension displacement. In addition, the cars were also equipped with test dummies in interior seating arrangements.

The results of the tests conducted to date indicate that the vertical motions of the car may have an influence on the occupant response. In the two-car test it was observed that the heads of unrestrained test dummies, initially seated in forward-facing seats, rose above the seatback ahead, resulting in excessive neck loads. In longitudinal sled testing of the same seating arrangement, the dummies' heads remained in contact with the seatback ahead. In the train-to-train test, an unrestrained test dummy, initially seated in forward-facing seat, was thrown into the aisle. The results of the full-scale tests indicate that the lateral and vertical motions of the cars may result in a significantly more severe environment for the occupants than previously assumed. The influence of the vertical and lateral car decelerations on occupant response and the effectiveness of occupant protection in the better-defined secondary collision environment need to be determined.

2. Objective.

The objectives of this effort are to compare simulation model predictions with test measurements of the response of the test dummies during the full-scale tests, to evaluate the influence of the lateral and vertical car motions, seat position inside the car, and occupant size on occupant response, and to compare current rail passenger seat sled-test procedures with the occupant environment and test dummy response measured in the full-scale tests.

3. Tasks. In order to accomplish the following tasks, the Government will provide the Contractor with test data from the single, two-car, and train-to-train full scale collision tests, and test data from commuter passenger seat/test dummy sled test data.

3.1 TASK 1: TECHNICAL PLAN.

The Contractor shall develop a technical plan that describes the approach and the schedule to be used to complete the work required in Tasks 2 through Task 9. This plan shall outline the analytical approach and the schedule for completing the tasks in this Statement of Work. The plan shall include a breakdown of the labor hours by labor category for task/subtasks, and a schedule time-line, highlighting technical and schedule milestones. The Contractor will also include a brief description of existing computer models that are to be used to perform the work required in this statement of work.

3.2 TASK 2: OCCUPANT VOLUME DECELERATIONS.

From the test measurements, the Contractor shall develop the longitudinal, lateral, and vertical deceleration time histories, as well as the roll, pitch, and bounce angular deceleration time histories for the car in the single car test, the lead and trailing cars from the two car test, and the cab and first coach cars from the train-to-train test. This information shall be sufficiently detailed to allow computation of the longitudinal, lateral, and vertical deceleration acting - the three-dimensional crash pulse -- on an occupant anywhere inside the car.

The Contractor shall make comparisons of the occupant environments in the single car test, both cars in the two-car test, and the cab car and first coach car in the train-to-train test. The Contractor shall plot the longitudinal decelerations from the single car test, the lead car in the two-car test, and the cab car on the same graph. The Contractor shall create similar plots of the lateral decelerations, vertical decelerations, and the three angular decelerations for these three cars. The Contractor shall also plot the longitudinal velocity of an unrestrained test dummy relative to the interior of the car as a function of his relative displacement inside the car, for test dummies in the single car test, both cars in the two-car test, and the cab car and first coach car in the train-to-train test.

3.3 TASK 3: DEVELOP OCCUPANT MODELS.

The Contractor shall develop occupant models, exercise the models to simulate the interior experiments conducted as part of the full-scale tests, compare the model predictions with test measurements, and refine the models to assure the models are as accurate as possible. The Contractor may extend existing models [1, 2].

3.3.1 Subtask 3.1: Draft Models.

The Contractor shall develop occupant models suitable for simulating the response of the test dummies in the single car test, the two-car test, and the train-to-train test. These models shall be capable of predicting the loads supported by the seat attachment to the floor and sidewall of the car. These models shall also be capable of predicting the

loads supported by any occupant restraints, as appropriate. Three models shall be developed:

1. Three forward facing unrestrained test dummies in commuter seats
2. Three rear-facing unrestrained test dummies in commuter seats
3. Forward facing test dummies in intercity passenger seats, two dummies restrained by lap and shoulder belts in the leading seat positions and two unrestrained dummies in the trailing seat positions.

These models shall include the necessary geometric descriptions of the seats, as well as the appropriate inertia and stiffness properties of the seats. The Contractor shall develop these properties from previous static deflection tests of these seats [1, 2] and manufacturers data. These models shall be capable of predicting the response of the test dummies during the three tests, with the input of the appropriate three-dimensional crash pulse. Results from the model shall include sufficient states to evaluate the NHTSA head, chest, neck, and femur injury criteria values.

3.3.2 Subtask 3.2: Exercise Models.

The Contractor shall exercise the models developed in Subtask 3.1 using the three-dimensional crash pulses developed in Task 2 as input to simulate the responses of the test dummies during the single car test, the two-car test, and the train-to-train test. The Contractor shall exercise the models for a total of ten simulation cases, as summarized in the following table.

Table 3.2: Occupant Protection Experiments
Conducted as Part of Full-scale Tests

Interior Arrangement	Single Car Test	Two-Car Test	Train-to-Train Test
1. Forward-Facing Commuter Seats	1	2 (leading and trailing cars)	2 (cab and first coach cars)
2. Rear-Facing Commuter Seats	1	1 (leading car)	-
3. Inter-city Seats	1	1 (leading car)	1 (first coach car)
Grand Total	10 Cases		

3.3.3 Subtask 3.3: Compare Model Predictions and Test Measurements.

The Contractor shall compare the results of the simulations conducted in Subtask 3.2 with the measurements made during the full-scale tests. For each of the ten cases, the Contractor shall qualitatively compare the kinematics of the test dummy motions as simulated with the motions recorded on high-speed film during the test in the corresponding occupant environment. The Contractor shall also compare the head deceleration time histories, the chest deceleration time histories, the neck load time histories, and the femur load time histories as predicted with the model and as measured during the corresponding tests. The Contractor shall also compare the seat attachment load cell time-histories for each of the ten cases. For the cases with the test dummies restrained by lap and shoulder belts, the Contractor shall compare the belt load cell time-histories with the load cell time-histories measured during the tests. The Contractor shall note any significant discrepancies between the model predictions and the test measurements. (An example of a significant discrepancy in test dummy kinematics would be the simulation predicting the test dummy's head striking the seatback ahead, when the corresponding high speed film from the test shows the test dummy's chest

striking the seatback ahead, and not the head. An example of a significant discrepancy would be a variation in peak head deceleration of more than 20% between the test measurements and the model predictions.)

3.3.4 Subtask 3.4: Refine Models.

If there are significant discrepancies between the model predictions for the occupant kinematics, then the Contractor shall refine the model appropriately to minimize these discrepancies. If there are significant discrepancies between the model predictions for any of the decelerations or loads and the test measurements, the Contractor shall refine the model appropriately to minimize these discrepancies.

3.4 TASK 4: PERFORM PARAMETRIC STUDY.

The Contractor shall conduct a parametric study to determine the influence of the lateral and vertical car motions (decelerations) on the test dummy response, to determine the influence of seat position on test dummy response, to determine the influence of test dummy size on test dummy response, and assess the effectiveness of the various interior configurations in protecting occupants during train-to-train collisions.

3.4.1 Subtask 4.1: Evaluate Influence of Lateral and Vertical Crash Pulse Components on Occupant Response.

For the three interior arrangement listed in Table 3.2 and one baseline three-dimensional crash pulse, the Contractor shall evaluate the influence of the lateral and vertical components of the car motions on the test dummies' responses. This baseline crash pulse shall be selected in consultation with the Task Order Contracting Officer's Technical Representative (TOCOTR). The Contractor shall simulate the test dummies' responses for three additional crash pulses:

1. with the longitudinal deceleration alone,
2. with the longitudinal and lateral deceleration, and
3. with the longitudinal and vertical deceleration

For these nine cases (three interior configurations for three crash pulses) and the baseline case performed as part of Task 3, the Contractor shall compare the test dummies' kinematics and NHTSA head, neck, chest, and femur injury criteria values. The Contractor shall assess the extent of the influence of the lateral and vertical decelerations on the test dummies' responses. If the elimination of the lateral and vertical decelerations results in significantly changing one or more of the injury criteria values computed, then the Contractor shall review the results to assess the cause of the change.

3.4.2 Subtask 4.2: Evaluate Influence of Seat Position on Occupant Response.

For the three interior arrangement listed in Table 3.2 and one baseline three-dimensional crash pulse, the Contractor shall evaluate the influence of seat position on the test dummies response. This baseline crash pulse shall be selected in consultation with the TOCOTR, and may or may not be the same crash pulse as selected for subtask 4.1. The Contractor shall simulate the response of the for at least three additional cases:

1. Near the lead end of the car
2. Near the center of the car
3. Near the trailing end of the car

The crash pulse shall be adjusted appropriately to account for the seat position inside the car. For these nine cases (three interior configurations each at three positions inside the car), the Contractor shall compare the test dummies' kinematics and NHTSA

head, neck, chest, and femur injury criteria values. The Contractor shall assess the influence of seat position in the car on the test dummies' responses. If changing seat position in the car significantly changes one or more of the injury criteria values computed, then the Contractor shall review the results to assess the cause of the change.

3.4.3 Subtask 4.3: Evaluate Influence of Occupant Size

For the three interior arrangement listed in Table 3.2 and one three-dimensional crash pulse, the Contractor shall evaluate the influence of occupant size on occupant response. This baseline crash pulse shall be selected in consultation with the TOCOTR, and may or may not be the same crash pulse as selected for subtask 4.1 or 4.2. The Contractor shall develop a matrix of all combinations of dummy sizes and number for each of the three principal test dummy sizes (5th percentile female, 50th percentile male, and 95th percentile male). From this matrix, the Contractor, in consultation with the TOCOTR, shall select three cases for each of the three interior arrangements. For example, a 95th percentile male test dummy may be more likely to have its head rise above a seat back, causing greater neck loads, than a 50th percentile dummy. A 5th percentile test dummy seated alone in the outboard position of a three-position forward facing seat may experience greater head deceleration than a 50th percentile test dummy, owing to her reduced mass.

3.4.3 Subtask 4.3: Assess Effectiveness of Interior Arrangements.

From the results of Task 3, Subtasks 4.1 and 4.2, the Contractor shall assess the effectiveness of the three interior arrangements listed in Table 3.2 in protecting occupants. The Contractor shall evaluate which interior arrangement protects the occupants under the widest range of circumstances, i.e., range of crash pulses, seat positions inside car, and dummy sizes. The Contractor shall assess the effectiveness of compartmentalization for unrestrained test dummies in forward facing seats. If compartmentalization is not as effective in as wide a range of circumstances as desirable, then the Contractor shall qualitatively assess if modifications can be made to the seats and interior to make compartmentalization more effective.

3.5 TASK 5: ASSESS CURRENT SLED-TEST PROCEDURE.

The Contractor shall compare the results for the two cases of the unrestrained test dummies in forward-facing commuter seats from the train-to-train test with the results of sled-tests of the same seat design, described in reference [2]. Using the high-speed films from the tests, the Contractor shall qualitatively compare the kinematics of the test dummy motions in the full-scale train-to-train test and in the sled test. The Contractor shall also compare the head deceleration time histories, the chest deceleration time histories, the neck load time histories, and the femur load time histories from the two cases from the train-to-train test and the sled test. The Contractor shall also compare the seat attachment load cell time-histories from the two cases from the train-to-train test and the sled test. If there are significant differences in test dummy kinematics between the two cases from the train-to-train test and the sled test, the Contractor shall assess the likely cause. If there are significant differences between the two cases from the train-to-train test and the sled test for the NHTSA injury criteria values, then the Contractor shall assess the likely cause.

3.6 TASK 6: COMPARTMENTALIZATION PRELIMINARY DESIGN STUDY.

The results of the occupant protection experiments conducted as part of the full-scale tests indicate that it may be difficult to implement compartmentalization as an effective strategy for protecting occupants during train collisions. During the two-car test and train-to-train test, unrestrained forward facing dummies rose sufficiently such that their heads cleared the seatbacks ahead, resulting in excessive neck loads. In the train-to-train test, a forward-facing unrestrained test dummy was thrown into the aisle. As a result of such occupant kinematics, injury criteria values increased, in some cases exceeding NHTSA threshold values. The contractor shall develop and evaluate potential modifications to the three-position commuter seat design tested during the full-scale tests, to improve the effectiveness of this seat design in compartmentalizing occupants.

3.6.1 Subtask 6.1: Define Requirements for Compartmentalization.

The Contractor shall develop the requirements for effective compartmentalization. These requirements shall include injury criteria, limits on occupant kinematics, the three-dimensional crash pulses - the combination of longitudinal, lateral, and vertical decelerations - and any other requirements necessary to assure the protection of unrestrained forward-facing seated occupants during a train-to-train collision. From the results of Task 4, the Contractor shall define up to 3 three-dimensional crash pulses that are most likely to result in unfavorable kinematics for forward-facing unrestrained passengers. (Unfavorable occupant kinematics include the occupant's head rising above the seatback, and the occupant being thrown into the aisle.)

3.6.2 Subtask 6.2: Develop Seat/Interior Modification.

For the three-position commuter seat, the Contractor shall develop modifications to the seat and interior designs in order to increase the occupant protection during a train-to-train collision. Such modifications may include, but are not limited to, increasing the height of the seatback, adding wings to the seatback, and increasing the size of armrests.

3.6.3 Subtask 6.3: Evaluate Seat/Interior Modification Effectiveness.

The Contractor shall modify the appropriate model developed in Task 3. The Contractor shall evaluate the effectiveness of the modified seat design against the requirements developed in Subtask 6.1.

4. TASK DELIVERIES OR PERFORMANCE.

Any software developed to perform the tasks and develop the information used to complete the study required by this statement of work is a deliverable. Such software includes input data files developed for applications programs such as ABAQUS, MADYMO, and DYNA3D, computer-language (e.g. FORTRAN and C) extensions to such applications, and stand-alone computer-language applications. The software so developed shall not require any additional proprietary software (i.e., in-house compilers, interpreters, or applications software) in order to execute and be employed as an analysis tool. Sufficient software shall be delivered to the Government at the end of this task so that if it so chooses, it can re-create the analyses done by the Contractor to accomplish the study described in this hypothetical task. Commercially available software, which can be freely purchased by the Government and any other public or private entity, may be used to develop such software. Copies of any software, including source code and data files, developed under this task shall be delivered to the Government at the end of this task. The Government will own and may distribute such software freely without restriction.

5. REFERENCES. Referenced material provides insight into the current state of the specific research related to the ongoing rail crashworthiness program. Reference material is available in CD format, and will be mailed upon request via e-mail.

[1] Tyrell, D.C., Severson, K.J., "Crashworthiness Testing of Amtrak's Traditional Coach Seat," US Department of Transportation, DOT/FRA/ORD-96/08, October 1996.

[2] VanIngen-Dunn, C., Manning, J., "Commuter Rail Seat Testing and Analysis," US Department of Transportation, DOT/FRA/ORD-02-10, April 2002.

L.7 COST AND BUSINESS PROPOSAL.**L.7.A INTRODUCTION.**

It is the Offeror's responsibility to ensure its Cost and Business Proposal is sufficiently complete and comprehensive so that the following objectives may be accomplished without further dialogue:

- Evaluate "cost realism" as defined in FAR 15.404-1(d);
- Calculate probable cost in accordance with FAR 15.404-1(d) for use in best value determination;
- Provide the Government with cost and fixed fee information that will facilitate task order issuance;
- Evaluate compensation for professional employees in accordance with FAR 52.222-46.
- Evaluate uncompensated overtime in accordance with FAR 52.237-10.
- Provide the Small Business Subcontracting Plan in accordance with FAR 52.219-9 (not applicable to small businesses.)

All information relating to cost or pricing must be included in this volume of the proposal; under no circumstances shall cost or pricing data be included elsewhere.

The cost proposal should be prepared in sufficient detail to permit thorough and complete evaluation by the Government without additional correspondence or communication. During its evaluation, the Government may request clarifications, answers to questions that assist in the Government's understanding of information contained in your cost proposal, or the correction of minor omissions or errors that do not alter the offer. However, the Government anticipates making award on initial offers and does not expect to hold discussions. Consequently, you are advised that failure to provide the required schedules and supporting calculations, narrative explanation, and documentation may result in the rejection of your offer if in the Government's best interest, rather than opening of discussions.

If the Contracting Officer determines that an Offeror's initially proposed costs do not reflect what it would reasonably cost that Offeror to perform the requirements, then the Contracting Officer may make adjustments to the proposed costs to determine probable cost.

To facilitate Cost and Business Proposal preparation, a checklist is provided for use by the prime Offeror and adjusted for use by each subcontractor. Please refer to the Cost and Business Proposal Checklist, in L.7.D.2. The checklist should be completed and submitted as part of the proposal.

L.7.B FORMAT.

In addition to the requirements set forth in FAR 52.215-20 Requirements For Cost Or Pricing Data Or Information Other Than Cost Or Pricing Data (Oct 1997) - Alternate IV (Oct 1997), the Cost and Business Proposal shall be submitted in three sections as follows:

Section I Solicitation Documents
 Section II Information Other Than Cost and Pricing Data
 Section III Subcontracting Plan (not applicable to Small Business Offerors)

L.7.C SECTION I - SOLICITATION DOCUMENTS.

In this section, Offerors shall submit a completed and signed SF 33 (page 1 of the solicitation) including acknowledgment of any amendments; and Representation, Certifications, and Other Statements of Offerors (Section K of the solicitation).

L.7.D SECTION II - INFORMATION OTHER THAN COST AND PRICING DATA.

L.7.D.1.....PART 1 - DETAILED INSTRUCTIONS.

The Offeror shall submit a signed Proposal Cover Sheet (Schedule 1) and information other than cost and pricing data as set forth below. Summary data shall be placed on the Proposal Cover Sheet and Schedules 2 through 6 should support it. In addition, as discussed in Paragraph L.5.C, Offerors shall ensure consistency between the Technical Proposal and the Cost and Business Proposal. All costs, rates, factors, assumptions, and calculations shall be shown and supporting rationale and documentation shall be included.

L.7.D.1.1 ACCOUNTING SYSTEM APPROVAL.

The Government does not intend to request accounting system reviews before contract award. The Government will not award a contract or approve a cost-type subcontract to a firm whose accounting system has not been approved by the cognizant audit agency, usually the Defense Contract Audit Agency.

L.7.D.1.2 GOVERNMENT ESTIMATED LEVEL OF EFFORT.

The Government's estimated level-of-effort for this requirement is 7,400 hours per year for five years, or a total of 37,000 hours. For proposal preparation purposes, Offerors must assume a performance period starting October 1, 2003. Hours should be apportioned between the Prime and its subcontractors in a manner consistent with the Offeror's technical proposal. The Administrative Labor hours that will be charged directly to this effort must be estimated by each Offeror and subcontractor.

Labor Category	Estimated Annual Hours	Total Requirement
Program Manager	200	1,000
Senior Engineers, Applied Mechanics	460	2,300
Senior Engineers, Biomechanics	400	2,000
Senior Operations Research Analysts	260	1,300
Middle Engineers, Applied Mechanics	1,200	6,000
Middle Engineers, Biomechanics	1,000	5,000
Middle Operations Research Analysts	720	3,600
Staff Engineers, Applied Mechanics	520	2,600
Staff Engineers, Biomechanics	460	2,300
Staff Operations Research Analysts	320	1,600
Junior Staff	800	4,000
Senior Technicians	660	3,300
Technicians	400	2,000
Total Government-estimated hours	7,400	37,000
Administrative Labor, if proposed	Estimated by Offeror	Estimated by Offeror
Total Hours		

L.7.D.1.3 LABOR.

Regardless of the labor practices used, Offerors shall provide on Schedule 3 the proposed unloaded hourly labor rates for the labor categories identified in B.2, Level of Effort - IDIQ. Show all calculations used to compute the proposed direct labor rates, and provide the basis and rationale for the labor rates. Examples of rationales are company-wide bidding rates, current salary data for named individuals, survey data, anticipated new-hires. Show how company categories correspond to the solicitation labor categories. Hours should be apportioned between the prime and its subcontractors in a manner consistent with the Offeror's Technical Proposal. For individuals whose resumes are provided in the technical proposal, provide the current labor rates from payroll records and, also, those labor rates escalated to each contract year. If any individual's payroll labor rate is 5 percent more or less than the proposed labor rate for that category, show calculations and provide a narrative addressing cost-realism for the proposed labor cost. **For contingent hires, the Offeror shall provide a separate offering letter showing the offered and agreed upon salary, signed by the contingent hire.**

L.7.D.1.4 ADMINISTRATIVE LABOR.

The Government expects that no administrative labor will be proposed. If administrative labor is proposed, the types of labor activities and the rationale for the estimate must be included. The Offeror should ensure that estimates for the following activities are included in its proposal, if direct recovery is anticipated: contract administration, subcontract administration, clerical and secretarial activity, work status reporting, financial reporting, and project reporting. Bid and proposal costs for task order proposal preparation will not be reimbursed. Administrative labor that is not described and priced will not be billable during performance without prior Contracting Officer approval.

L.7.D.1.5 ESCALATION. Show all calculations. Current labor and salary data should be escalated 3.4 percent per annum for the five-year period of performance. An Offeror may use an alternative escalation factor if rationale and documentation are provided. An example of rationale and documentation would be including actual, historical escalation for the past three years with an explanation of the calculation.

L.7.D.1.6 UNCOMPENSATED OVERTIME.

The Offeror shall comply fully with the requirements of Section L, FAR Provision 52.237-10, IDENTIFICATION OF UNCOMPENSATED OVERTIME. The Offeror shall include a copy of its policy addressing uncompensated overtime with its proposal.

L.7.D.1.7 INDIRECT RATES.

The Government expects that the preponderance of work will be performed at the Offeror's facility. The Offeror shall provide, on Schedule 5, its indirect rates and explanations of the allocation bases. Include all rates that the Offeror maintains in its accounting records that may be used during performance of this contract. Identify indirect rates which a Government audit agency has approved for forward pricing. Show the rates, allocation bases, and evidence of Government review and approval.

If not approved, state the basis of the proposed rate (e.g., previous year's actuals, current fiscal year-to-date, business plan, etc.). Provide historical rate information, rationale, and other factors used to develop and support the proposed indirect rates used

to cost the proposal. Also, provide actual expense pool amounts, allocation bases, and rates which have been submitted to the Defense Contract Audit Agency (or other cognizant Government audit agency) in your overhead rate proposal for establishing final indirect rates.

Offerors and proposed subcontractors should review the situations described in FAR Subpart 42.707(b)(1), and if applicable, should consider proposing indirect rate ceilings.

L.7.D.1.8 OTHER DIRECT COSTS (ODC).

Each Offeror shall include the following ODC. The ODC must be burdened in accordance with the Offeror's accounting practice. The Offeror shall include RFP Stipulated ODC for Travel and Equipment, \$15,000 per year of contract performance, a total of \$75,000 for all years.

Offeror Estimated ODC: Offerors should identify by nomenclature and estimate amounts for any additional ODC's which are anticipated to support the proposed effort. This includes any administrative and support labor estimated to be chargeable to this effort in accordance the Offeror's usual accounting practices (e.g. contract or subcontract administration, secretarial, purchasing agents, receivers, etc.). Indicate what types of administrative and support labor the Offeror considers direct labor, and estimate hours for each type of labor. Provide an explanation for the estimated hours and show calculations. ODC's not identified and priced in your proposal, including any such administrative and support labor, will not be billable during performance without prior Contracting Officer approval.

L.7.D.1.9 SUBCONTRACTS.

Subcontractors must submit a cost proposal in accordance with the cost proposal instructions in this section. Subcontracts estimated to exceed \$500,000 should be supported by a Proposal Cover Sheet. All subcontractors must follow the same cost proposal instructions as the prime, except where noted. Regardless of dollar value, subcontract proposals must be adequately documented to facilitate an evaluation of proposed costs.

Offerors that enter into subcontracts other than on a cost-reimbursement type basis may make appropriate adjustments to the instructions and schedules. Information as to the type of subcontract contemplated and documentation to show why the contract type is anticipated must be included. The guidance in FAR Part 16 should be followed. For example, those Offerors contemplating time-and-material or labor-hour subcontracts shall follow the procedures specified in FAR Subpart 16.6. The following information should also be provided for time-and-material or labor-hour agreements (such as those with consultants): (1) Details of what cost elements are included in the rate and what costs, if any, will be charged in addition to the rate; (2) The result of the Offeror's analysis of invoices submitted to other clients by the subcontractor or consultant which support the proposed rate or rates; (3) A signed statement from the consultant or the subcontractor that the proposed rate is a "Most Favored Customer Rate," or the reason it was not offered; and (4) A rate comparison from the Offeror which indicates that the rate proposed is comparable to the rates other consultants or subcontractors receive for performing similar types of work.

The Offeror shall provide the names of the other consultants or subcontractors used in the comparison.

It is the responsibility of the prime Offeror to review and evaluate the subcontract

proposal and accompanying cost or pricing data and furnish the results of the subcontract review to the Government as part of its cost submission, regardless of whether the details are provided to the prime Offeror or separately to the Government. The prime Offeror's review should be as detailed as permitted by the available information. A subcontractor whose cost evaluation is considered insufficient by the Government, either because the data submitted to the Government is incomplete or because the prime fails to conduct and document a comprehensive cost evaluation, will be deleted from technical consideration and the prime's technical proposal will be evaluated without consideration of this subcontractor.

L.7.D.1.10 COST OF MONEY. Include supporting calculations.

L.7.D.1.11 FEE OBJECTIVES.

Fee is a function of competition, but the Government will utilize the weighted guidelines method in Transportation Acquisition Manual (TAM) Chapter 1215, CONTRACTING BY NEGOTIATION, Appendix A, DOT STRUCTURED APPROACH FOR PROFIT OR FEE OBJECTIVE, to evaluate fee. An Offeror's cost proposal should contain adequate data and rationale for any consideration to support Contractor Risk and Special Factors. Offerors are encouraged to visit the following TAM website: <http://www.dot.gov/ost/m60/earl/chap1215.htm#appen15a> .

L.7.D.2 PART 2 - COST AND BUSINESS PROPOSAL CHECKLIST AND SCHEDULES.

COST AND BUSINESS PROPOSAL CHECKLIST, Volume I: Original and 3 Copies	Applicable to Subcontract?	Proposal Page Number (s)
SECTION I: SOLICITATION DOCUMENTS.		
Solicitation Documents: SF33 (page 1 of the solicitation), acknowledgements of Amendments, and Section K	Yes	
SECTION II: INFORMATION OTHER THAN COST AND PRICING DATA.		
Schedule 1, Proposal Cover Sheet	If greater than \$500,000	
Schedule 2, Summary of Proposed Costs and Fee	Yes	
Schedule 3, Summary of Direct Labor Costs	Yes, except labor hour	
Schedule 4, Labor Cost Realism Information	Yes	
Schedule 5, Indirect Rates and Factors	Yes, except labor hour	
Schedule 6, Subcontract Information	No	
Supporting documentation and calculations for direct labor rates, including current salary information, escalation to performance period, mapping Offeror categories to RFP Key Personnel categories. For contingent hires, offering letter showing agreed upon salary, signed by the contingent hire. See Section L, paragraph L.7.D.1.9.	Yes	
Information on salaries and fringe benefits required by FAR 52.222-46, Evaluation of Compensation for Professional Employees	No	
If proposed, Administrative labor hours, including types of labor activities and rationale for hours included	Yes	
Information describing accounting treatment of administrative and clerical labor.	Yes	
Matrix(es) showing apportionment of hours by labor categories. Highlight named employees whose resumes are provided in the Technical Proposal	Yes	
If proposed, estimate and rationale for Offeror-estimated Other Direct Costs	Yes	
Evidence of Accounting System Approval	Yes	
Escalation Rate Rationale	Yes	
Uncompensated Overtime Policy. Additional information, if proposed.	Yes	
Supporting documentation for indirect rates, with evidence of Government approval	Yes	
If proposed, Cost of Money supporting calculations.	Yes	
Fee Objective rationale to support Contractor risk and special factors	No	
Subcontracts review and evaluation by prime Offeror	No	
SECTION III: SUBCONTRACTING PLAN (not applicable to small business Offerors)	No	

SCHEDULE 1

PROPOSAL COVER SHEET				1. SOLICITATION/CONTRACT/MODIFICATION NUMBER			
2a. NAME OF OFFEROR				3a. NAME OF OFFEROR'S POINT OF CONTACT			
2b. FIRST LINE ADDRESS				3b. TITLE OF OFFEROR'S POINT OF CONTACT			
2c. STREET ADDRESS							
				3c. TELEPHONE		3c. FACSIMILE	
2d. CITY	2e. STATE	2f. ZIP CODE		AREA CODE	NUMBER	AREA CODE	NUMBER
4. TYPE OF CONTRACT OR SUBCONTRACT (Check) <input type="checkbox"/> FFP <input type="checkbox"/> CPFF <input type="checkbox"/> CPAF <input type="checkbox"/> FPI <input type="checkbox"/> CPIF <input type="checkbox"/> OTHER (Specify)				5. <input type="checkbox"/> PRIME OFFEROR <input type="checkbox"/> SUBCONTRACTOR _____ <div style="text-align: right;">PRIME OFFEROR'S NAME</div>			
6. ESTIMATED COST, FEE AND PROFIT INFORMATION							
A. ESTIMATED COST							
B. FIXED FEE							
C. TOTAL COST PLUS FIXED FEE							
7. PROVIDE THE FOLLOWING							
NAME OF COGNIZANT CONTRACT ADMINISTRATIVE AGENCY				NAME OF COGNIZANT GOVERNMENT AUDIT AGENCY			
STREET ADDRESS				STREET ADDRESS			
CITY	STATE	ZIP CODE		CITY	STATE	ZIP CODE	
TELEPHONE	AREA CODE	NUMBER		TELEPHONE	AREA CODE	NUMBER	
FACSIMILE	AREA CODE	NUMBER		FACSIMILE	AREA CODE	NUMBER	
NAME OF CONTACT				NAME OF			
PROPERTY SYSTEM <input type="checkbox"/> Reviewed by cognizant contract administrative agency and determined acceptable <input type="checkbox"/> Reviewed by cognizant contract administrative agency and determined not acceptable <input type="checkbox"/> Never reviewed				APPROXIMATE DATE OF LAST AUDIT			
				PURPOSE OF AUDIT (e.g. proposal review, establishment of billing rates, finalize indirect rates, etc.)			
				PURCHASING SYSTEM <input type="checkbox"/> Reviewed by cognizant contract administrative agency and determined acceptable <input type="checkbox"/> Reviewed by cognizant contract administrative agency and determined not acceptable <input type="checkbox"/> Never reviewed			
8a. NAME OF OFFEROR (Typed)				9. NAME OF FIRM			
8b. TITLE OF OFFEROR (Typed)							
10. SIGNATURE					11. DATE OF SUBMISSION		

OFFEROR NAME: _____

SCHEDULE 2**SUMMARY OF PROPOSED COSTS AND FEE**

<u>Cost Category</u>		<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
	<u>Rates</u>						
Direct Labor							
Fringe Benefits	_____						
Overhead	_____						
Subcontracts ¹							
Other Direct Costs (ODC)		15,000.	15,000.	15,000.	15,000.	15,000.	75,000.
Offeror Estimated ODC							
ODC Burden	_____						
Subtotal							
G&A	_____						
Cost of Money							
Total Cost							
Fixed Fee							
TOTAL Cost Plus Fixed Fee							

¹ Not applicable to subcontractors

PRIME NAME: _____

OR

SUB NAME: _____

SCHEDULE 3**SUMMARY OF DIRECT LABOR COSTS**

LABOR CATEGORIES	TOTAL LABOR HOURS	ANNUAL LABOR HOURS	DIRECT LABOR RATES					DIRECT LABOR COST				
			YR 1	YR 2	YR 3	YR 4	YR 5	YR 1	YR 2	YR 3	YR 4	YR 5
Program Manager	1,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Senior Engineers, Applied Mechanics	2,300		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Senior Engineers, Biomechanics	2,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Senior Operations Research Analysts	1,300		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Middle Engineers, Applied Mechanics	6,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Middle Engineers, Biomechanics	5,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Middle Operations Research Analysts	3,600		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Staff Engineers, Applied Mechanics	2,600		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Staff Engineers, Biomechanics	2,300		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Staff Operations Research Analysts	1,600		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Junior Staff	4,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Senior Technicians	3,300		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Technicians	2,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Total Technical Hours	37,000		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Administrative Labor (specify)			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Administrative Labor (specify)			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Total			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

Schedule 4 - LABOR COST REALISM INFORMATION

Prime or subcontractor Name: _____

Labor Category: Program Manager		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalate to Year One

Labor Category: Senior Engineers, Applied Mechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Escalated* Labor Rate

Labor Category: Senior Engineers, Biomechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalate to Year One

Labor Category: Senior Operations Research Analysts		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalate to Year One

Labor Category: Middle Engineers, Applied Mechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalate to Year One

Labor Category: Middle Engineers, Biomechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalate to Year One

Schedule 4 - LABOR COST REALISM INFORMATION
(continued)

Labor Category: Middle Operations Research Analysts		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalated to Year One

Labor Category: Staff Engineers, Applied Mechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Labor Rate Escalated to Year One

Labor Category: Staff Engineers, Biomechanics		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Escalated* Labor Rate

Labor Category: Staff Operations Research Analysts		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Escalated* Labor Rate

Labor Category: Senior Technicians		Labor Rate from Schedule 3, Year One: \$	
Resumed Person(s) Name(s)	Hours Proposed	Current Labor Rate	Escalated* Labor Rate

Schedule 5 - INDIRECT RATES AND FACTORS

Prime or Subcontractor Name: _____

Cost Element	Proposed Rate/Factor	Allocation Base
Labor Escalation		Not applicable
Fringe Benefits (if separate from overhead)		
Overhead		
Subcontract Burden (if separate)		
ODC Burden (if separate)		
Other (specify)		
G & A		
Cost of Money		

Contractor Fiscal Year Ends: _____

PRIME NAME: _____
 OR
 SUB NAME: _____

Schedule 6**SUBCONTRACT INFORMATION**

	Subcontractor A Name:	Subcontractor B Name:
Subcontract Type		
Subcontract Value		

Labor Category	Distribution of Annual Hours			
	Prime Offeror	Subcontractor A Name:	Subcontractor B Name:	Total Annual Hours
Program Manager				200
Senior Engineers, Applied Mechanics				460
Senior Engineers, Biomechanics				400
Senior Operations Research Analysts				260
Middle Engineers, Applied Mechanics				1,200
Middle Engineers, Biomechanics				1,000
Middle Operations Research Analysts				720
Staff Engineers, Applied Mechanics				520
Staff Engineers, Biomechanics				460
Staff Operations Research Analysts				320
Junior Staff				800
Senior Technicians				660
Junior Technicians				400
Total Technical Hours				7,400

L.7.E SECTION III - SUBCONTRACTING PLAN.

In accordance with Section I, FAR Clause 52.219-9, Offerors who are not small business concerns shall submit a Small Business Subcontracting Plan. The plan must be submitted in accordance with FAR Part 19 and must comply with FAR Subpart 19.7. The Offeror shall show the subcontractor's business size, and the percentage and type of workload estimated to be subcontracted out. All cost and technical information must be included in the appropriate sections of the Offeror's proposal in addition to the submission of the subcontracting plan. The Volpe Center socio-economic goals are currently as follows:

Subcontract Awards	Percent of Dollars Awarded
Awards to Small Businesses	30.0%
Awards to Small Disadvantaged Businesses	10.0%
Awards to Women-Owned Businesses	5.0%
Awards to HubZone Businesses	3.0%
Awards to Service Disabled Veteran-Owned Businesses	3.0%

These goals are not intended to be mandatory but Offerors are encouraged to keep these goals in mind when developing their subcontracting plan. Please note that these goals must be proposed as a percentage of total dollars being subcontracted. A business may count toward more than one of the goals shown above. For example, a small disadvantaged business owned by a women, may count toward each of the three goals.

SECTION M - EVALUATION FACTORS FOR AWARD

M.1 GENERAL EVALUATION INFORMATION.

M.1.A Basis for Award.

It is the Government's intent to make award based upon initial offers without entering into discussions or negotiations. Award(s) will be made to the responsive and responsible Offeror(s) whose offer(s) provide the greatest overall value to the Government, based on the Technical Proposal, the Cost and Business proposal, and other factors. The Government procedures for issuing task orders to the contract awardees are described in Section H, Paragraph H.8. While it is the Government's intent to make award based upon initial offers, the Government may, nevertheless, determine during the evaluation period that it is necessary to conduct discussions. In that case, the Contracting Officer will proceed to establish a competitive range and conduct negotiations with the firms in that range.

M.1.B Order of Importance.

The technical evaluation factors that are addressed in the Technical Proposal, when combined, are significantly more important than cost in the selection of a Contractor for award. Notwithstanding this fact, Offerors are cautioned not to minimize the importance of the Cost Proposal. As the difference in ratings of submitted Technical Proposals decreases, the importance of evaluated cost will increase. When the Technical Proposals are evaluated as essentially equal, evaluated cost may become the determining factor in making an award.

M.2 TECHNICAL PROPOSAL EVALUATION CRITERIA.

The Offeror's Technical Proposal will be evaluated in accordance with the criteria described below. The technical evaluation criteria Past Performance, Staffing, and Response to Hypothetical Tasks, are of equal weight in evaluating proposals.

- A. **Past Performance**. The purpose of this criterion is to assess the ability of the Offeror to perform successfully based upon an evaluation of its relevant past performance history on work of the type and complexity described in Section C, the Statement of Work (SOW). The Offeror's relevant past performance history will be evaluated for the following subfactors, which are of equal importance:
- (1) Quality of Product or Service;
 - (2) Cost Control;
 - (3) Timeliness of Performance;
 - (4) Business Relations.

If an Offeror has affirmatively stated that it has no relevant past performance history, and there is no evidence to the contrary, the Offeror will not be rated favorably or unfavorably on past performance.

- B. **Staffing.** The purpose of this criterion is to assess the qualifications of the proposed Program Manager(s), key personnel, and the other technical staff in terms of education, experience, and expertise relevant to rail equipment crashworthiness, as outlined in Section C herein and listed below. These three considerations (education, experience, and expertise) are of equal importance in evaluating this criterion. The Offeror's proposed staff will be evaluated based on education, experience and expertise in the following technical areas.

Risk Analysis

- Operations research
- Familiarity with railway operating practice
- Analysis of railway signal systems reliability and failure modes

Structural Crashworthiness

- Rail equipment collision mechanics
- Elastic/plastic analysis of rail equipment structures with large deformations
- Elastic/plastic testing of structures
- Analysis of rail car trajectories during collision
- Design, manufacturing and fabrication of rail equipment structures

Occupant Protection

- Occupant collision mechanics
- Biomechanics/Injury prediction from test data and analytic models of human body dynamics
- Analysis of unrestrained rail equipment occupant dynamic response during secondary collision
- Testing of occupant dynamic response to secondary collision environment
- Design, manufacturing and fabrication of rail equipment seats

- C. **Response to Hypothetical Tasks.** Statements of Work (SOWs) for three of the hypothetical Tasks 1, 2, and 3 are provided in L.6.B.4 herein, one each for the three technical areas: Risk Analysis, Structural Crashworthiness, and Occupant Protection. (Note: The Offeror is not being asked to perform the work described, but rather how it would go about setting up the effort, both technically and managerially, and what would be the solution approach.) The response to each of these hypothetical tasks will be evaluated according to the following factors:

1. Task Understanding and Technical Approach. How completely the response to the SOW shows the understanding of the technical issues required to perform the work described in the SOW and the likely effectiveness of the proposed technical approach (i.e., the analytic techniques) in completing the work described in the SOW.
2. Task Management (including staff assignments). Appropriateness and adequacy of the scope and planning of the proposed effort. Appropriateness of staff members assigned to each task, and labor and funding levels for each task and the overall effort (including computer, travel, documentation, and equipment), and the scheduling for each task item.

3. Available Resources. Computer simulation tools and hardware and other specialized resources proposed for use in completing the work described in the SOW.

In evaluating the responses to the hypothetical tasks, Factor 1, Task Understanding and Technical Approach, is of greater importance than the combination of Factor 2, Task Management, and Factor 3, Available Resources. Factor 2 is significantly more important than Factor 3, which is of lesser importance than either of the first two factors.

M.3 COST AND BUSINESS EVALUATION CRITERIA.

The Cost and Business Proposal will not be numerically scored. The Offeror's Cost and Business Proposal will be evaluated for compliance with the RFP instructions, and proposed costs will be evaluated to establish that they are fair and reasonable and demonstrate cost realism. Cost realism, as defined in FAR Subpart 15.404-1(d), will be conducted. The evaluated price will be the amount used to determine best value.

As stated in Paragraph M.1.B, the results of the cost proposal evaluation will increase in importance if the Technical Proposal results are similar. And further, as the evaluated prices are similar, other cost-related factors will assume increased importance.

The following factors are cost considerations, not necessarily in order of importance.

- Compliance with RFP instructions, including the completeness of the proposal packages and the extent to which the cost estimates and factors are clearly substantiated by the Offeror.
- Realism of proposed costs.
- Reasonableness of the proposed fee.
- The acceptability of the Small Business Subcontracting Plan. (Section I, FAR 52.219-9) (applies to large business concerns only).
- Risk associated with a cost proposal that fails, or partially fails, to satisfactorily and convincingly support its proposal.